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By FRANK M. CHAPMAN

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National Association of Audubon Societies

FEB 10 1920
National Museum

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The Ring-Necked Pheasant

By VERDI BURTCH, Branchport, N. Y.
With photographs by the Author

SINCE its introduction into western New York, this beautiful and inteesting bird has thrived and multiplied until now it is the principal gamebird of this section of the state. In interest to the hunters, it has displaced the Ruffed Grouse, which is now rather rare. Unlike the Grouse, which keeps to the thick brush and gully banks, the Pheasant is a bird of the meadows and swamps and seldom goes far into the woods.

In March, after the snow has left the ground and the first warm days have come, we hear the first crow of the cock, and, as the season advances and the

RING-NECKED COCK PHEASANT
Photographed by Verdi Burtch, Branchport, N. Y.

grass grows green, early every morning, from all over the bottom-lands, that peculiar, weak crow is heard. We follow one and soon find him walking through the meadow, a most beautiful sight, as he moves along with head-plumes erect, the white ring around his neck contrasting strongly with the dark metallic blue of his head and neck, and his breast shining like burnished copper. Now he stops, stands very erect and utters his silly little crow which he immediately follows with three or four rapid wing-beats. Then he sees us and with great cackling of alarm is up and away.

MALE AND FEMALE PHEASANTS

About May 1, the eggs are laid. The nest is a slight hollow in the grass along fence hedgerows, in the edge of bush-lots, or in the open fields, and is usually under a piece of brush. Many nests are found in the grape vineyards, under the trellis wires; also out in the drier places in the cat-tails in the marsh. Frequently the nests are found by the roadside, sometimes so close that they are destroyed when the roads are worked. May 7, 1916, I found a hen Pheasant sitting on her nest in the bank at the edge of a wooded hillside, close to a main highway where all kinds of vehicles were passing within six feet. There was a small pine tree growing just above, and a piece of brush stuck up over the nest. This was the only cover for the nest, yet the dull colors of the bird blended so perfectly with the olive-brown earth and the dead grasses and oak leaves that

she was scarcely noticeable. Several years ago a Pheasant scooped out and lined a hollow between the ties just outside the rails of our local trolley line, where both passenger and freight cars are passing frequently. It was only a few feet from a switch and was found by one of the brakemen, who flushed her before the eggs were laid, and she never came back to the nest. The nest is almost sure to be deserted if found before the set is complete, and many times even after incubation is commenced.

In summer, the principal food of the Pheasants seems to be insects, such

PHEASANT ON NEST

as grasshoppers, June bugs, and caterpillars, and they often destroy ant-hills, eating the ants, but as the season advances they do some damage to grain and corn. In September, they congregate in the valley around the marsh and lake, where they can be found gleaning the fields that have been harvested.

After the snows cover their natural food-supply, many of them can be seen patrolling the shores of the lake in company with Crows, Herring Gulls, and Black Ducks, searching for food in the weeds that the breakers have washed ashore. During very cold spells, when they get their tails wet, snow adheres to them, freezing on and causing them much inconvenience. I once flushed a hen Pheasant that had a great bunch of snow and ice adhering to her tail, weighting her down so much that it was with great difficulty that she managed to rise and fly away.

They also come into the barnyards and feed with the chickens, and into the gardens, where I have seen them jump up and strip the pole beans from the poles. They eat almost any kind of weed seed, that of the burdock being a favorite.

When we have heavy snows that lay on the ground for a long time, the Pheasants have a very hard time of it and can be seen wandering over the fields, searching every tuft of weeds, or in the apple trees picking at the frozen apples that are still hanging to the trees.

It was just such a time as this, in the winter of 1916, when the Pheasants were almost famished, that we established the feeding-place described in the last number of BIRD-LORE. At first we could not get the Pheasants to come, so we shoveled a path in the snow, leading off in the field, and scattered seeds along in it. The English Sparrows were first to find the seed, and I think that they were a help in directing the Pheasants to it. It was only a day or two before three hens were coming up the trail, but it was nearly a week before a cock bird came to the feeding-place. The hens came in increasing numbers every day. From the swamp away across the field, they would come, singly and in twos and threes, cautiously at first, then running rapidly in little spurts and stopping often to look around, but they would all soon be at the feeding-place and mingle with the Tree Sparrows, Horned Larks, and Snowflakes. We had great sport for nearly a month watching and photographing these beautiful birds, but as the snow began to go off and bare spots showed in the fields, they scattered, and soon our feeding-place was deserted and only a memory.

BLACK DUCKS
Photographed by Frank Levy, on the Pokiok River, N. B., June 20, 1919

Bobbie Yank

By KATRINE BLACKINTON, Blackinton, Mass.

THE bird-books call him the White-breasted Nuthatch—my friend out there on the trunk of the maple tree—but I call him 'Bobbie Yank.' The reason for my familiarity is the fact that we have been on speaking terms for over a year. It began on Thanksgiving Day, 1917, over a piece of suet tied to the balcony post, and has continued in a progressive fashion, by means of little devices and encouragements like sunflower seeds and nut-meats put in unexpected places, until now we are old friends, even though our relations are seasonal.

Of course, spring and summer find him with intensive family duties on his hands (at which I lay a wager he is no slacker) and, with at least two batches of husky youngsters coming on to be sheltered, fed, and taught, what time, I would like to ask has B. Yank for as much as a thought of his winter pals? Why I have it on the highest authority that he passes Downy and Chickadee, whom he dotes on in the cold months, without as much recognition as the turning of an eyelash—rushes right by them with such rude haste that our Alice-in-Wonderland Ears and Whiskers Rabbit would feel obliged to pause and raise a monocle of astonishment. So I need not feel that he singles me out for personal slight, and when I tell you that he really did call on me during his rush season, won't you understand how honored I felt?

Last July, as I was giving the garden a good 'hosing' after a very hot day, I heard a familiar *yank* close to my ear, and, turning, saw my friend, his wife, and five children on the trunk of a young black walnut at the garden's edge, only a pace from where I stood. If the most distinguished man in the world had made a pilgrimage with his family to see me, I couldn't have felt more 'set up.' There were the proud, sleek parents and their five overgrown, fluffy youngsters, a study in blue-gray! Their father's look told volumes: "Well, here they are! And a fine-looking lot, if I do say so. I'll tell you a family like that represents work. Now there's just the feeding alone—many's the time I've gone to bed hungry after a hard day carrying grubs to those children, and the worst of it was, you positively couldn't fill them!" Of course, his manner was bristling with *ego*, but who could blame him? Certainly not I, as I stood spellbound with admiration watching those young black-capped, blue-grays imitating their parents. I wouldn't have given a cent for the life of a grub in that tree, with those lively, new, inverted grub-enthusiasts carrying on their bill-driving campaign with all the pristine vigor of youth.

Months intervened before I next saw Bobbie, and then in the company of a male friend, which prompted me to draw the conclusion that he had set up bachelor's apartments for the winter. Upon my first glimpse of him I put some nut-meats on the upper balcony and just inside my bedroom window, and waited. The balcony meats made a prompt disappearance, and then, sure

enough, in he came—very cautiously at first—hopping over the window-sill with his individual zigzag hop, and changing his *yank, yank* as he entered into a subdued colloquial tone which Mr. Chapman has well described as his 'conversational twitter.' Later on, when the nuts appeared, not only on the floor but on the furniture and in unexpected corners, Bobbie made his entrance by flying from the balcony rail onto the corner of the dressing-table, which stands between the two long French windows, and there he took a survey in order to

'BOBBY YANK'

decide which lunching-place gave the best promise. These visits often came at about 7 o'clock in the morning, and I could watch him from the vantage ground of my bed. The steady stream of conversation which he carried on with himself, under his breath, interested me almost more than any other cunning wild thing about him. The more acquainted I grow with this altogether fascinating bird, the stronger is my impression that he conceals an adventurous spirit behind that matter-of-fact mask of his. Every new device for feeding that I put out he is the first to approach, and one sunny day I sat in the open

window of *his* room with a nut-meat riding on the toe of my boot, foot extended. He came hopping in very cautiously, looking at me with head on one side, his bright eyes questioning my face, plainly saying "Will you keep still? Really, will you?" Then in a most casual way he grasped the nut and made off with it in no undue haste.

Another outstanding quality of Bobbie's is his great love of playing to the gallery. Give him an appreciative audience and he is made. One day I sat down at my desk to write, glanced out of the window and saw Bob all tucked into the corner of the seed-tray of the Packard feeding-station on his favorite maple, obviously settled for a luxurious siesta after a large meal. As soon as his eye caught mine he gave himself a quick shake, assumed the defensive attitude of a man who has been caught napping, but won't own it, moved out into the center of the tray and made his bill fly in all directions like a person vigorously using a broom, scattering seeds to the winds. I rapped on the window and shook my finger at him, mentioning Mr. Hoover's name. He stopped an instant, then went at it again with all the recklessness of a drunken sailor on first shore-leave after a long voyage, and "a fig for your Hoover" in every motion of that active bill.

And now I have come to an interesting psychological fact about Bobbie. I have in my room a plaster Barye lioness standing out rather large and white against a mahogany bookcase. Bob has taken nuts from every piece of furniture and every object in the room except the lioness; he has never touched her, but on two occasions has taken nuts from her pedestal. I thought I would force the issue by putting a very large nut-meat (he is especially weak about large ones) in her jaw and not a fragment anywhere else in the room. That day I was putting a shining new coat of paint on our east enclosed veranda, which we use as a breakfast-room, when I heard the worst clatter—a perfect din—out on the east maple. It has the scolding note of the Robin at his most excited moments, combined with the blatant quality of the Flicker. I saw, to my amazement, that it was Bob, single-throated, and the rating was unmistakably directed at me. At the moment I entirely forgot the lioness incident, and went out in all sincerity to find what was wrong. As I approached he threw off his challenging attitude like a flash, dodging around the bark of the tree, assumed his most businesslike grub-searching expression—"positively not a moment to spend in conversation." Not until I had resumed my paint-and-brush activity did the picture of the nut in the lioness' mouth come to me. So *that* was the cause of this outburst of unparliamentary speech hurled from the maple, and then it came to me that, sandwiched in between anathemas, I had detected something to this effect: "I'm not going to fly into the jaws of death for you or any other woman! My mother told me at a tender age to recognize that combination of lines as cat, than which bird has no worse enemy." Now if somebody who has studied bird psychology would explain this little quirk of Bobbie's, or at least advance a theory, I would be grateful.

I held out about the nuts until the following day, when he came to meet me as I approached our front door after a marketing trip. He flew from the west maple, lighted on the top of the spindle of the lower blind nearest me, came down the spindle as he comes down the trunk of a tree, inverted, head up and his 'conversational twitter' transformed into a genuine teasing tone! *Could* anyone resist such an appeal? And now do you wonder that my window stands open in all kinds of weather, and that I cast aside such frills as curtains that blow and shades that flap, in order to receive every winter such a delightful guest?

The Staghorn Sumac

By E. A. DOOLITTLE, Painesville, Ohio

THERE is one tree to which we ornithologists and bird-lovers of the more northern states should gratefully lift our hats—the staghorn sumac, *Rhus typhina*. In the sense of providing food for birds it holds a peculiar place and has two attributes possessed by no other, namely, it never fails to *bear* fruit and the fruit *stays* on the tree. Besides, it is abundant and freely distributed: let it get a start along a fence-row and it marches along in both directions, without loss in the center; let it start at the foot of a barren hillside and as certain as fate it will reach the crest; on flat lands or in neglected fields it will form round, even-topped thickets, and in places preoccupied by other trees and shrubs it lives, and waits. So we, and, incidentally, the birds, may be thankful that there is a class of land-owners who do not cut out the sumac until it is a case of cut sumac or buy a new farm. Virtually, it is a weed among trees, but, like lots of other weeds, it has a beauty of its own in the numerous red fruit-cones at the apex of the branches, and most bird-lovers know, I presume, that these seed clusters are a food-supply for numerous species of birds; but do we all recognize the most important part the sumac plays, relative to the birds' bill-of-fare?

It may surprise some when I state that my personal conviction is that the birds do *not* like the sumac seeds. Ever eat a few yourself? I am much addicted myself to tasting and eating all sorts of wild fruit, berries, seeds, leaves, barks, and roots, and find that for pure 'cussedness' the seeds of sumac rank third after wild crabapples and Indian turnip. The taste is sour, very, very sour; otherwise they appear to consist of very hard, flat seeds covered with red hair. There may be a thin flesh also, as they are classed as a sort of dry drupe, but for ordinary purposes, including food, they are hard stones, red velvet, and acid. Perhaps a bird's taste is different from mine, and maybe the fur tickles their palates in a pleasing manner, but taste is not my chief reason for thinking the birds do not like the sumac's offering.

Just so long as there are other fruits, berries, or insects about, you will

find the chumps of sumac barren of feeding birds. In the fall, when the pepperidge bears, you will find each tree alive with many different species, greedily stripping them to the last little drupe; then, as winter approaches, arrives, and vanishes, one by one, in the order of their delectableness, do the other natural fruits and berries vanish—wild grapes, woodbine, mountain-ash, and numerous others; but as long as a few frozen apples still cling to the trees, just so long do the few remaining Robins, Waxwings, and others evade the waiting sumac. The first spring arrivals come at last: Bluebirds, Robins, Flickers, and Blackbirds galore. There is still nearly enough food to satisfy the returning hosts, for it has been augmented by early insects, swelling buds, and the melting snows have uncovered hidden stores. And still the sumac waits!

STAGHORN SUMAC

A little later come the Phœbes and Hermit Thrushes. And then, in this latitude, with a most charming regularity, comes something else. A change of wind to the north, several inches of snow, freezing at night, and, out of the soft ground, great quadrangular crystals of ice appear. The morning after the storm you will find the Robins, hustlers that they are, searching the wet edges of the ponds and brooks, hopping along the sheltered sides of buildings and fences and even out on the snow-covered lawns where they no doubt find many a blizzard-caught 'night-walker;'—and they are so cheerful about it too! Much different are the actions of the Grackles who perch in bunches at the tops of the windiest trees they can find and, in muffled feathers, disconsolately pulse out a Grackle curse every few minutes.

It is at such a time the sumac has its day—just go out late in the afternoon and see for yourself. Bluebirds are there in bunches, and the Robins, with

hunger still unappeased in spite of their hopeful search, have finally trooped off to the scraggly trees that have held aloft their maroon cones of velvety seeds so long. Last spring one little tree held two Flickers, a Robin, a Bluebird, a Hermit Thrush, and a Phœbe, all frantically pulling the seeds from the clusters.

Years ago it worried me considerably as to what the Phœbe did for food during such a spell of weather. Since finding them eating sumac seeds I have felt better about it. Then I had an idea—perhaps those thick seed-clusters held insects also upon which the Phœbe could feed. So I examined a cone or so. Yes, there were lots of those little dancing flies and similar insects enmeshed in the velvety clusters. Not being an entomologist, I cannot give the 'botanical names' of the bugs, but they consisted of gauzy wings and long legs, principally, while as for bodies, there was no meat, no juice, no skin—just a sort of film surrounding a suggestion, so I was convinced the Phœbes were eating the sour seeds also.

To be sure, I am only speaking in generalities, and do not mean to imply the sumac is never visited at other times. But usually I find them barren of birds except at the period mentioned, while then it fills a gap in the food-supply that helps out the birds' bill-of-fare prodigiously. So let's doff our hats to *Rhus typhina*, the staghorn sumac, the Tree of Last Resort.

CLAY-COLORED SPARROW
Photographed by H. and S. Pittman, Hartney, Manitoba

TWO WINTER BIRDS—UPPER FIGURE, REDPOLL; LOWER FIGURE, WESTERN HORNED OWL

Photographed by H. and E. Pittman, Hartney, Manitoba

Bird-Lore's Advisory Council

WITH some slight alterations, we reprint below the names and addresses of the ornithologists forming BIRD-LORE'S 'Advisory Council,' which were first published in BIRD-LORE for February, 1900.

To those of our readers who are not familiar with the objects of the Council, we may state that it was formed for the purpose of placing students in direct communication with an authority on the bird-life of the region in which they live, to whom they might appeal for information and advice in the many difficulties which beset the isolated worker.

The success of the plan during the twenty years that it has been in operation fully equals our expectations. From both students and members of the Council we have had very gratifying assurances of the happy results attending our efforts to bring the specialist in touch with those who appreciate the opportunity to avail themselves of his wider experience.

It is requested that all letters of inquiry to members of the Council be accompanied by a stamped and addressed envelope for use in replying.

NAMES AND ADDRESSES OF MEMBERS OF THE ADVISORY COUNCIL

UNITED STATES AND TERRITORIES

ALASKA.—Dr. C. Hart Merriam, 1919 16th St., N. W., Washington, D. C.
ARIZONA.—Harriet I. Thornber, Tucson, Ariz.
CALIFORNIA.—Joseph Grinnell, University of California, Berkeley, Calif.
CALIFORNIA.—Walter K. Fisher, Palo Alto, Calif.
COLORADO.—Dr. W. H. Bergtold, 1159 Rose St., Denver, Colo.
CONNECTICUT.—J. H. Sage, Portland, Conn.
DELAWARE.—S. N. Rhoads, Haddonfield, N. J.
DISTRICT OF COLUMBIA.—Dr. C. W. Richmond, U. S. Nat'l. Mus., Washington, D. C
FLORIDA.—Frank M. Chapman, Am. Mus. Nat. History, New York City.
FLORIDA, Western.—R. W. Williams, Jr., Tallahassee, Fla.
GEORGIA.—Dr. Eugene Murphy, Augusta, Ga.
ILLINOIS, Northern.—B. T. Gault, Glen Ellyn, Ill.
ILLINOIS, Southern.—Robert Ridgway, U. S. National Museum, Washington, D. C.
INDIANA.—A. W. Butler, State House, Indianapolis, Ind.
IOWA.—C. R. Keyes, Mt. Vernon, Iowa.
KANSAS.—University of Kansas, Lawrence, Kans.
KENTUCKY.—A. C. Webb, Nashville, Tenn.
LOUISIANA.—Prof. George E. Beyer, Tulane University, New Orleans, La.
MAINE.—A. H. Norton, Society of Natural History, Portland, Maine.
MASSACHUSETTS.—Winsor M. Tyler, Lexington, Mass.
MICHIGAN.—Prof. W. B. Barrows, Agricultural College, Mich.
MINNESOTA.—Dr. T. S. Roberts, Millard Hall, University of Minn., Minneapolis, Minn.
MISSOURI.—O. Widmann, 5105 Morgan St., St. Louis, Mo.
MONTANA.—Prof. J. M. Elrod, University of Montana, Missoula, Mont.
NEBRASKA.—Dr. R. H. Walcott, University of Nebraska, Lincoln, Neb.
NEVADA.—Dr. A. K. Fisher, Biological Survey, Dept. of Agr., Washington, D. C.
NEW HAMPSHIRE.—Dr. G. M. Allen, Boston Soc. Nat. Hist., Boston.

New Jersey, Northern.—Frank M. Chapman, Am. Mus. Nat. History, New York City
New Jersey, Southern.—Witmer Stone, Academy Natural Sciences, Philadelphia, Pa.
New Mexico.—Dr. A. K. Fisher, Biological Survey, Dept. of Agr., Washington, D. C.
New York, Eastern.—Dr. A. K. Fisher, Biological Survey, Washington, D. C.
New York, Western.—E. H. Eaton, Hobart College, Geneva, N. Y.
North Dakota.—Prof. O. G. Libby, University, N. D.
North Carolina.—Prof. T. G. Pearson, 1974 Broadway, New York City.
Ohio.—Prof. Lynds Jones, Oberlin College, Oberlin, Ohio.
Oklahoma.—Dr. A. K. Fisher, Biological Survey, Dept. of Agr., Washington, D. C.
Oregon.—W. L. Finley, Milwaukee, Ore.
Pennsylvania, Eastern.—Witmer Stone, Acad. Nat. Sciences, Philadelphia, Pa.
Pennsylvania, Western.—W. E. Clyde Todd, Carnegie Museum, Pittsburgh, Pa.
Rhode Island.—H. S. Hathaway, Box 1466, Providence, R. I.
South Carolina.—Dr. P. M. Rea, Charleston Museum, Charleston, S. C.
Tennessee.—Albert F. Ganier, Nashville, Tenn.
Texas.—H. P. Attwater, Houston, Texas.
Utah.—Prof. Marcus E. Jones, Salt Lake City, Utah.
Vermont.—Prof. G. H. Perkins, Burlington, Vt.
Virginia.—Dr. W. C. Rives, 1723 I Street, Washington, D. C.
Washington.—Samuel F. Rathburn, Seattle, Wash.
West Virginia.—Dr. W. C. Rives, 1723 I Street, Washington, D. C.
Wisconsin.—H. L. Ward, Public Museum, Milwaukee, Wis.

CANADA

Alberta.—G. F. Dippie, Calgary, Alta.
British Columbia.—Francis Kermode, Provincial Museum, Victoria, B. C.
Manitoba.—Ernest Thompson Seton, Greenwich, Conn.
Nova Scotia.—Harry Piers, Provincial Museum, Halifax, N. S.
Ontario, Eastern.—James H. Fleming, 267 Rusholme Road, Toronto, Ont.
Ontario, Western.—W. E. Saunders, London, Ont.
Quebec.—W. H. Mousley, Hatley, Quebec.

MEXICO

E. W. Nelson, Biological Survey, Dept. of Agr., Washington, D. C.

WEST INDIES

C. B. Cory, Field Museum, Chicago, Ill.

GREAT BRITAIN

Clinton G. Abbott, Rhinebeck, N. Y.

Bird-Lore's Twentieth Christmas Census

THE highest number of species recorded in this census in the northern and middle Atlantic States is forty-three by Orient, Long Island; in the south, forty-five by St. Petersburg, Fla.; in the Mississippi Valley, forty-five by Nashville, and forty by Kansas City; on the Pacific Coast 109 by Santa Barbara.

Despite the wintry conditions prevalent at Christmas time, the open fall experienced by northeastern states is reflected in the presence of birds which ordinarily have moved south before this date. For instance, the Grackle occurs on four reports from Rhode Island, Connecticut, and New York states (75 at New Haven, the others single birds); twenty-five Red-winged Blackbirds are reported from New Haven, one from New York City; we have six Rusty Blackbirds (Norwalk, Conn.), and twenty-five (Fort Plain, N. Y.); and the Cowbird is reported from two localities on Long Island (37 and 1). Rusty and Cowbird often migrate very late, and it will be more remarkable if the latter winters than if it moves on at this late date. A census too late for publication from Bucksport, Me., lists a Towhee (Dec. 28) present in one locality since Dec. 3. The bird was found dead next day, sent to the American Museum (Mrs. W. H. Gardner), and the identification confirmed. A Wilson's Snipe is reported from two widely separate Long Island localities; a Vesper Sparrow from New York City and Plainfield, N. J.; a Catbird on Long Island and in New Jersey. Of more casual occurrence, the Baltimore Oriole at Cohasset, Mass (Dec. 21); King Rail at Orient, Long Island; Tree Swallow at Gardiner's Island, and seven Swallows on the Hackensack Marshes; Phœbe at Moorestown, N. J., and Northern Phalarope at Telford, Pa., should not be overlooked.

Yet the interest of the census centers largely in what it can tell us of this year's movement of northern Finches,—Siskin, Redpoll and Crossbills are more than usually abundant. Twenty-seven Siskin reports are scattered over New England, New York and New Jersey (1 to 100 individuals). Besides one just across the river from Trenton, there is one report each from Pennsylvania, Maryland, Indiana, western Missouri, eastern Kansas (1 to 7); it is mentioned once in Illinois, and strangely enough, the largest number (500) is reported from Youngstown, Ohio. Twenty Redpoll reports are scattered over New England and New York, in which state we find it as far south as Rhinebeck, on the Hudson, and twice on the coast (eastern Long Island and Staten Island). It also occurs at Youngstown (12). Both Crossbills have come south this year, but at this date seem to have almost completely left New England and eastern Long Island, though the Red Crossbill is recorded from Martha's Vineyard, both "within a few days" at Orient, L. I., and a single Red at Wareham, Mass. The census finds the Red Crossbill once on western Long Island (12 individuals), twice on Staten Island, N. Y. (same locality, 26 and 13), once each in New Jersey (7), Maryland (10), and District of Columbia (2); also

in Illinois (2), western Missouri (21), eastern Kansas (35), South Dakota (2). It finds the White-winged Crossbill once each in northern (14) and western (3) New York, and in New Jersey (1); both species once in Ohio (Youngstown, Red, 20; White-winged, 11), in Wisconsin (Red, 1; White-winged 40), and in Nebraska (Red, 6; White-winged 36).

Those who hesitate to credit to blind chance even the presence of such erratic birds, may speculate on whether Youngstown's good fortune in having all four species on one census is due to the presence there of especially enthusiastic bird-lovers, an environment particularly attractive to such visitors, or being strategically situated on some migration route.—J. T. NICHOLS.

Quebec, P. Q. (Bergerville, Ste. Foye, Cap Rouge, Bridge, Sillery).—Dec. 26; 7.30 A.M. to 3.20 P.M. Clear to 9.30 A.M., cloudy thereafter; moderate snowfall began at 2.40 P.M. and continued till dark; 6 in. snow; wind northeast, light; temp. —5° at start, +14° at return. Fifteen miles on foot. Downy Woodpecker, 1; Evening Grosbeak, 13; Pine Grosbeak, 54; Redpoll, 14; Red-breasted Nuthatch, 1; Chickadee, 18; Robin, 3. Total, 7 species, 104 individuals.—HARRISON F. LEWIS.

Hatley, Stanstead County, P. Q.—Dec. 26; 9 A.M. to 12 M. and 1 to 4 P.M. Fine; 3 in. snow; wind southwest, light in the morning, fresh in the afternoon; temp. 2° at start, 20° at finish. Canadian Ruffed Grouse, 4; Blue Jay, 1; Pine Grosbeak, 1; Redpoll, 40; White-breasted Nuthatch, 4; Black-capped Chickadee, 17. Total, 6 species, 67 individuals.—H. MOUSLEY.

London, Ont., vicinity of.—Dec. 27; 8 A.M. to 12 M. and 2.30 to 5.30 P.M. Overcast; temp. 31° at 8 A.M, rising to 55°, then dropping to 29° at 5.30 P.M.; an inch or two of snow on the ground; wind, southwest, moderate; heavy snowfall commenced about 4 P.M. Combined list of two parties working in the morning and four working in the afternoon. Owl (probably Long-eared), 1; Downy Woodpecker, 8; Blue Jay, 10; Crow, 22; Purple Finch, 2; Redpoll, 55 (reported by nearly all parties); Goldfinch, 1; Siskin, 65 (one flock); Snow Bunting, 20 (one flock); Tree Sparrow, 15; Song Sparrow, 3; Cardinal, 3; Brown Creeper, 7; White-breasted Nuthatch, 7; Red-breasted Nuthatch, 1 (at food shelf); Black-capped Chickadee, 87 (very common this winter); Brown-cap Chickadee, 1; Golden-crowned Kinglet, 15. Total, 18 species, 323 individuals. Also seen recently Bronzed Grackle, American Merganser, White-throated Sparrow, Screech Owl, and about a month ago, both White-winged and Red Crossbills. The absence of Juncos this winter is quite unusual.—W. E. SAUNDERS, J. F. CALVERT, J. C. HIGGINS, E. H. PERKINS, T. D. PATTERSON, J. R. MCLEOD, G. GILLESPIE, E. M. S. DALE, MRS. DALE. (McIlwraith Ornithological Club.)

Reaboro to Manvers Station, Ont. (Lat. 44° 15′ N.).—Dec. 22; 7.35 A.M. to 5 P.M. Overcast; ½inch snow; wind southwest, light; temp. 32° to 35°. About 25 miles on foot. Black Duck, 1; Ruffed Grouse, 13; Hairy Woodpecker, 6; Downy Woodpecker, 2; Blue Jay, 20; Crow, 1; Rusty Blackbird, 1; Pine Siskin, 3; Redpoll, about 90; Snow Bunting (heard); Tree Sparrow, 3; Fox Sparrow, 1; White-breasted Nuthatch, 2; Chickadee, 31. Total, 14 species, 145+ individuals. The Blackbird and Fox Sprarow, also the Duck, were seen to excellent advantage (with 12 power binoculars), hence no question in the identification. Also seen during the month: Horned Lark (7th); Mourning Dove (14th); Northern Shrike (18th); Great Horned Owl (21st).—EARL W. CALVERT.

Kennebunk, Me. (to Parsons Beach and back).—Dec. 26; 10 A.M. to 4 P.M. Overcast; a very little snow in patches; wind south, light at start, strong at noon and on return; temp. varying, about 20°. Ten miles on foot. Observers together. Horned

Grebe, 5; Herring Gull, 20; (American or Barrow ?) Golden-eye, 12; Old Squaw, 6; American Scoter, 15; White-winged Scoter, 20; Hairy Woodpecker, 1 (seen before starting); Downy Woodpecker, 2; Crow, 30; Purple Finch, 2; Black-capped Chickadee, 20. Also a small Plover or Sandpiper, impossible to identify under the circumstances. Total, 12 species, about 134 individuals.—STERLING DOW, EDWARD B. HINCKLEY.

Wilton, N. H.—Dec. 25; 8 A.M. to 12 M. Clear; 1 in. fresh snow; wind, northwest, light; temp. 20° to 26°. Ruffed Grouse, 1; Red-tailed Hawk, 1; Downy Woodpecker, 2; Crow, 10 (one flock); Starling, 4; Goldfinch, 15; Redpoll, 38 (two flocks); Tree Sparrow, 5; Junco, 3; Chickadee, 11; Robin, 8 (one flock). Total, 11 species, 98 individuals. Hairy Woodpecker and White-breasted Nuthatch were seen Dec. 21.—GEORGE G. BLANCHARD.

Jaffrey, N. H.—Dec. 22; 9.45 A.M. to 4 P.M. Cloudy in A.M., clear in P.M.; ground bare; wind southwest, light; temp. 24° at start, 30° at return. Eleven miles on foot. Observers apart. Hairy Woodpecker, 1; Blue Jay, 1; Redpoll, 146; American Goldfinch, 2; Tree Sparrow, 20; Chickadee, 16. Total, 6 species, 186 individuals.—LUCIA B. CUTTER, NINA G. SPAULDING.

Wells River, Vt. (to East Ryegate along the banks of the Connecticut River, back on first range of hills west of river.)—Dec. 23; 1 to 5 P.M.; clear; 1 in. snow; no wind; temp. 32° at start, 42° at return. Eight miles on foot. Ruffed Grouse, 3; Blue Jay, 2; Redpoll, 1; Brown Creeper, 2; White-breasted Nuthatch, 1; Chickadee, 11 (2 flocks). Total, 6 species, 20 individuals. On the preceding day I observed a Hairy Woodpecker and two Pine Grosbeaks.—WENDELL P. SMITH.

Bennington, Vt.—Dec. 23; 9.45 to 11.15 A.M. Clear; 2 in. snow; wind west, very light; temp. 24° at start, 30° at return. Four-mile auto trip with a walk of 1 mile in fields and woods. Observers together. Ruffed Grouse, 2 (a pair); Hairy Woodpecker, 1; Downy Woodpecker, 3; Blue Jay, 2; Crow, 6; Starling, 40+; Meadowlark, 8; Pine Siskin, 50+; Tree Sparrow, 4; Red-breasted Nuthatch, 1; Chickadee, 6. Total, 11 species, about 120 individuals. On Dec. 12 and 13 a Yellow-bellied Sapsucker was observed.—DR. and MRS. LUCRETIUS H. ROSS.

Devereux to Marblehead Neck, Mass. (and back).—Dec. 26; 12 M. to 4 P.M. Partly cloudy; ground bare; wind northeast, strong; temp. 32°. Observers together. Holbœll's Grebe, 1; Horned Grebe, 7; Black Guillemot, 8; Dovekie, 1; Kittiwake, 4; Great Black-backed Gull, 4; Herring Gull, 350; Ring-billed Gull, 1; Red-breasted Merganser, 11; Black Duck, 1; American Golden-eye, 38; Old Squaw, 5; Bald Eagle, 1 (full plumage); Sparrow Hawk, 2; Crow, 5; Flicker, 3; Starling, 125 (in two flocks); Tree Sparrow, 2; Black-capped Chickadee, 4. Total, 19 species, 573 individuals. The Gulls were all seen at close range as they sat on the water.—ALICE O. JUMP, LIDIAN E. BRIDGE.

Boston, Mass. (Arnold Arboretum and vicinity).—Dec. 26; 10.30 A.M. to 5 P.M. Cloudy; 2 in. snow; wind southwest; temp. 25° to 35°. Herring Gull, 1; Ring-necked Pheasant, 1; Northern Flicker, 5; Blue Jay, 11; Crow, 40; Slate-colored Junco, 12; Myrtle Warbler, 11; Black-capped Chickadee, 30; Golden-crowned Kinglet, 4. Total, 9 species, 115 individuals.—GEORGE MACDONALD, CHANDLER BROOKS.

Boston, Mass. (The Arnold Arboretum).—Dec. 22; 10.30 A.M. to 2.30 P.M. Cloudy (the last hour sunny); a trace of snow only; wind northwest to southwest, light; temp. 25° at start, 37° at return. Sparrow Hawk, 1; Downy Woodpecker, 1; Northern Flicker, 4; Blue Jay, 24; Crow, 22; Starling, 140; Redpoll, 3; Goldfinch, 2; Pine Siskin, 13; White-throated Sparrow, 3; Slate-colored Junco, 22; Song Sparrow, 4; Myrtle Warbler, 8; Mockingbird, 1; White-breasted Nuthatch, 2; Chickadee, 21; Golden-crowned Kinglet, 2; Hermit Thrush, 1. (Both kinds of Crossbills had been present from Oct. 30 to Dec. 1, inclusive.) Total, 18 species, 274 individuals.—HORACE W. WRIGHT.

Roslindale, Mass. (Forest Hills Cemetery, Franklin Park, Arnold Arboretum, and Allendale Woods.)—Dec. 25; 10.30 A.M. to 5 P.M. Clear; ½in. snow; wind east, very

light; temp. 30° at start, 28° at return. Eight miles on foot. Observers together. Ring-necked Pheasant, 3; Sparrow Hawk, 1; Downy Woodpecker, 1; Blue Jay, 7; American Crow, 28; Starling, 9; Meadowlark, 3; Goldfinch, 14; Tree Sparrow, 34; Slate-colored Junco, 11; White-breasted Nuthatch, 1; Chickadee, 8. Total, 12 species, 120 individuals. —Alfred O. Gross, Roe Mabie.

West Medford, Mass. and Middlesex Fells.—Dec. 28; 8 A.M. to 1 P.M. Clear; ground thinly covered with snow; wind southwest, moderate. Seven miles on foot. Ring-necked Pheasant, 3; Hairy Woodpecker, 1; Downy Woodpecker, 2; Flicker, 2; Blue Jay, 19; Crow, 21; Starling, 6; Goldfinch, 5; Tree Sparrow, 3; Junco, 10; White-breasted Nuthatch, 2; Black-capped Chickadee, 13. Total, 12 species, 87 individuals.—Edmund and Lidian E. Bridge.

Lexington, Mass. (to Lincoln, Concord, Bedford, and back).—Dec. 26; 8 A.M. to 4 P.M. Low clouds, rain in afternoon; ground bare; wind southwest, light; temp. 36° at departure, 38° at return. Twenty-three miles on foot, alone. Ruffed Grouse, 1; Marsh Hawk, 1; Downy Woodpecker, 1; Flicker, 2; Blue Jay, 5; American Crow, 19; Starling, 16; Evening Grosbeak, 2; Goldfinch, 24; White-breasted Nuthatch, 2; Chickadee, 38; Golden-crowned Kinglet, 4. Total, 12 species, 115 individuals. Marsh Hawk (male) seen at distance and identified by bluish gray back, wings, and tail; dark bars on tail; and white upper tail coverts.—H. Lincoln Houghton.

Wellesley, Mass. (Around Lake Waban, the Outlet and Morse's Pond).—Dec. 28; 9.30 A.M. to 2.15 P.M. Clear; traces of snow on ground; lake frozen; wind northwest, light to brisk; temp. 28° to 34°. Seven miles on foot. Observers together. Bob-white, 15 (one covey); Downy Woodpecker, 3; Blue Jay, 10; Crow, 5; Starling, 8; Redpoll, 29 (one flock); Goldfinch, 7; Pine Siskin, 5; Tree Sparrow, 13; Slate-colored Junco, 28; White-breasted Nuthatch, 4; Chickadee, 7; Golden-crowned Kinglet, 3. Total, 13 species, 137 individuals.—Gordon B. and Helen H. Wellman.

Sharon, Mass.—Dec. 24; 8.30 to 10.30 A.M. and 12 M. to 4 P.M. Cloudy and foggy; ground bare; light west wind; temp. 40°. About 7 miles. Ruffed Grouse, 8; Hairy Woodpecker, 2; Downy Woodpecker, 5; Flicker, 2; Blue Jay, 7; Crow, 8; Starling, 14; Goldfinch, 165; Tree Sparrow, 11; Slate-colored Junco, 117; Brown Creeper, 3; Black-capped Chickadee, 25. Total, 12 species, 367 individuals.—Mrs. Harriet U. Goode, Harry G. Higbee, Manley B. Townsend.

Weston, Mass.—Dec. 23; 8.15 A.M. to 12.15 P.M., 2.15 to 4.15 P.M. Misty in A.M. and P.M., but bright and sunny at noon; ground chiefly bare, but a little old snow; wind, light; temp. 32° to 42°. Long-eared Owl, 2; Hairy Woodpecker, 1; Downy Woodpecker, 1; Blue Jay, 5; Crow, 16; Starling, 125; Goldfinch, 30; Pine Siskin, 75; Tree Sparrow, 7; Junco, 17; Brown Creeper, 2; Chickadee, 24. Total, 12 species, 305 individuals. The Owls were quite unusual—seen in a heavy growth of pine, scolded by numerous Chickadees. They were brown, of medium size, and had the markings of the Long-eared on the wing. I could not find them perched.—Warren F. Eaton.

Holyoke, Mass. (vicinity of Mt. Tom Range).—Dec. 25; 9 A.M. to 1 P.M., 2 to 4 P.M. Clear; wind north, strong; snow fell during preceding night, leaving small drifts in places; 2 to 3 in. of snow on the level; clouds vanished and wind diminished as day wore on; temp. 24° at start, 32° at return. Eight to 10 miles on foot. Three observers together. Ring-necked Pheasant, 1; Sparrow Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 2; Blue Jay, 15; American Crow, 400 to 500 (largely one flock); Starling, 40 (two flocks); Snow Bunting, 10 to 12 (one flock); Redpoll, 75 (two flocks); Goldfinch, 4 to 5; Tree Sparrow, 6; White-breasted Nuthatch, 1; Chickadee, 15; Robin, 1. The Robin was one of two observed Dec. 23; 4 Meadowlarks Dec. 21; Pine Siskins have been frequent during the month. Total, 14 species, about 625 individuals.—Alden Healey, Arthur Mitchell, John L. and Aaron C. Bagg.

Wareham, Mass.—Dec. 28; 7 A.M. to 4.30 P.M. Fair; ground partly snow-covered;

wind southwest, light; temp. 34° at start. Approximately 6 miles, on foot; by automobile between points. Observers together. Horned Grebe, 2; Black-backed Gull, 6; Herring Gull, 455; American Merganser, 6; Red-breasted Merganser, 29; Black Duck, 158; American Golden-eye, 325; Old Squaw, 4; Bob-white, 7; Ruffed Grouse, 4; Belted Kingfisher, 1; Downy Woodpecker, 3; Northern Flicker, 3; Horned Lark, 30; Blue Jay, 15; Crow, 85; Starling, 2; Meadowlark, 5; Purple Finch, 2; Red Crossbill, 1; Goldfinch, 45; Pine Siskin, 3; Snow Bunting, 2; White-throated Sparrow, 2; Tree Sparrow, 55; Slate-colored Junco, 40; Song Sparrow, 4; Swamp Sparrow, 2; Towhee (male), 1; Myrtle Warbler, 6; Brown Creeper, 1; Red-breasted Nuthatch, 2; Chickadee, 80; Robin, 1. Total, 34 species, 1,387 individuals. The Towhee was also seen on Dec. 21.—Dr. Winsor M. Tyler, C. A. Robbins, Frank Robbins.

Cohasset, Mass. (Jerusalem Road, Atlantic Ave., Sandy Cove).—Dec. 26; 10 A.M. to 1 P.M. Clear, becoming overcast; ground partly covered with light snow; temp. 25° to 32°. Four miles on foot, alone. Loon, 1; Black-backed Gull, 20; Herring Gull, 250; Red-breasted Merganser, 5; American Golden-eye, 6; Black-crowned Night Heron, 3; Ring-necked Pheasant, 2; Sparrow Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 1; Flicker, 3; Horned Lark (heard, not seen); Blue Jay, 3; American Crow, 20; Starling, 7; Purple Finch, 2; American Goldfinch (heard, not seen); Tree Sparrow, 25; Junco, 10; Song Sparrow, 4; Cedar Waxwing, 55; Myrtle Warbler, 20; Brown Creeper, 1; Chickadee, 25; Robin, 1. Total, 25 species, about 465 individuals. A Screech Owl was heard at 7 A.M. Dec. 27. A Baltimore Oriole was seen in Cohasset Dec. 21, feeding on frozen grapes in an arbor; I watched it from a distance of 3 feet, although it flew a hundred yards without difficulty when first seen. This is of particular interest because I reported another Baltimore Oriole within a mile of this place, in my Christmas Bird Census three years ago, the only two winter Orioles I have ever known. The earlier record was made on Dec. 26 and 31, 1916.—John B. May, M.D.

Somerset and Dighton, Mass. (along Taunton River and Broad Cove).—Dec. 25; 8.30 A.M. to 12 M. Cloudy; 2 in. ice and snow; wind northeast, strong; temp. 24°. Observations mostly together. Herring Gull, 25; Black Duck, 30; Golden-eye, 2; Downy Woodpecker, 1; Northern Flicker, 4; Blue Jay, 1; Crow, 20; Starling, 40 (single and in small, loose flocks); Meadowlark, 4; Goldfinch, 6; Pine Siskin, 30 (dusky streaks and yellow on wings noted at close range, also notes heard); Tree Sparrow, 1; Slate-colored Junco, 3; Myrtle Warbler, 15; Chickadee, 1. Total, 15 species, about 183 individuals.—F. Seymour Hersey, Charles L. Phillips.

New Bedford and Dartmouth, Mass.—Dec. 26; 11.30 A.M. to 4.30 P.M. Fair; 2 in. of snow; wind southwest, very light; temp. 30° at start, 25° at return. About 7½ miles on foot. Observers together. Sharp-shinned Hawk, 5; Barred Owl, 1; Crow, 12; Blue Jay, 15; Flicker, 9; Starling, 40; Meadow Lark, 24; Horned Lark, 60; Purple Finch, 3; Redpoll, 4; Goldfinch, 99; White-throated Sparrow, 2; Tree Sparrow, 37; Junco, 20; Song Sparrow, 10; Brown Creeper, 4; Chickadee, 36; Robin, 21. Total, 18 species, 402 individuals. (We followed fresh tracks of a covey of twelve Bob-white, for about 200 feet through underbrush and scrub oaks, and a little later met a man who had just seen them.)—Edith F. Walker, Alice Terry.

Edgartown, Martha's Vineyard, Mass.—Dec. 23; 9.45 A.M. to 1.45 P.M. Foggy; patches of snow on ground, thawing; wind east, light; temp. 42°. Four miles or so on foot. Observers together. Loon, 1; Herring Gull, 3; Duck, 1 (unidentified); Bob-white, 8; Downy Woodpecker, 2; Flicker, 4; Horned Larks, 3; Blue Jay, 5; Crow, 8; Meadowlark, 8; Goldfinch, 1; Tree Sparrow, 3; Junco, 2; Song Sparrow, 1; Fox Sparrow, 1; Myrtle Warbler, 16; Mockingbird, 1; Red-breasted Nuthatch, 3; Chickadee, 9. Total, 19 species, 80 individuals. Heard Red Crossbills at several points. A flock of about 60 is wintering here. The Fox Sparrow had been seen earlier in the month. The Mockingbird appears to be the same one that has been here for three years. A flock of 13 Night

Herons was seen about dusk Dec. 21.—MONA WILLOUGHBY WORDEN, CHARLOTTE V. MADEIROS.

East Providence, R. I.—Dec. 25; 10 A.M. to 4.30 P.M. Fair; 3 in. snow on ground had fallen during preceding night, damp snow clung to branches. Six Corners to Watchemoquet Square, walking; trolley for 6 miles, along Providence River and Narragansett Bay to Barrington; walking through Barrington swamp to beach, along beach to Rumstick Point, and back to Barrington by road. Seven miles walking. Herring Gull, 150 (est.); Golden-eye, 18; Old-squaw, 3; other ducks unidentified, 60 (est.); Mourning Dove, 1; Downy Woodpecker, 1; Northern Flicker, 4; Blue Jay, 4; American Crow, 17; Starling, 30; Bronzed Grackle, 1; Pine Siskin, 2; Finches unidentified, 15; Tree Sparrow, 175 (est.); Slate-colored Junco, 40 (est.); Myrtle Warbler, 12; White-breasted Nuthatch, 1; Chickadee, 17. Total, 16 species, 550 individuals (est.).—HENRY E. CHILDS.

Providence and East Providence, R. I.—Dec. 25; 9.30 A.M. to 2 P.M. Cloudy, followed by clear; snow on the ground; wind northwest, fairly strong; temp. 25°. Herring Gull, 15; Downy Woodpecker, 1; Flicker, 2; Blue Jay, 5; Crow, 10; Goldfinch, 7; Tree Sparrow, 20; Junco, 30; Song Sparrow, 6; Brown Creeper, 2; White-breasted Nuthatch, 2; Chickadee, 50. Total, 12 species, 150 individuals.—JOHN W. RUSSELL.

Warwick, R. I.—Dec. 25; 10 A.M. to 3 P.M. Cloudy, clearing at noon; 6 in. snow, all vegetation buried; wind northeast, fresh; temp. 24° at start, 26° at return. Eight miles on foot. Herring Gull, 28; Scaup, 7; Screech Owl, 1; Hairy Woodpecker, 1; Downy Woodpecker, 1; Red-headed Woodpecker (wintering), 1; Flicker, 3; Blue Jay, 17; American Crow, 18; Starling, 29; Goldfinch, 72; Pine Siskin, 2; Tree Sparrow, 26; Field Sparrow, 1; Junco, 8; Song Sparrow, 5; Myrtle Warbler, 17; White-breasted Nuthatch, 1; Chickadee, 35; Robin, 5. Total, 20 species, 278 individuals.—HARRY S. HATHAWAY.

South Windsor, Conn.—Dec. 25; 9 A.M. to 4.30 P.M. Clear all day; an inch of snow fell previous night; wind northwest, light; temp. 25° to 29°. About 15-mile tramp; several miles beside Connecticut River, north of Hartford; in the meadowland and marshes parallel to it; then in the woodland on the higher ground. Observers together. Herring Gull, 4; Merganser, 16; Black Duck, 1; Ring-neck Pheasant, 2 (pair); Goshawk, 1; Red-shouldered Hawk, 1; Sparrow Hawk; 1; Screech Owl, 2; Hairy Woodpecker, 4; Downy Woodpecker, 16 (unusually plentiful); Flicker, 1; Prairie Horned Lark, 60+ (two flocks); Blue Jay, 3; Crow, 150+; Starling, 100+; Meadowlark, 4; Purple Finch, 7; Goldfinch, 100+; Tree Sparrow, 200+; Song Sparrow, 20+; Brown Creeper, 2; White-breasted Nuthatch, 6; Chickadee, 150+. Total, 23 species, 851+ individuals. Great Horned Owl (pair), Barred Owl, Golden-eye Duck, Northern Shrike, and Pileated Woodpecker seen within last few days, but could not find today.—C. W. VIBERT, GEO. T. GRISWOLD.

Hartford, Conn.—Dec. 25; 9.30 A.M. to 12 M. Clear; ground snow-covered; wind west, strong; temp. 26°. Ruffed Grouse, 1; Barred Owl, 1; Hairy Woodpecker, 2; Downy Woodpecker, 3; Blue Jay, 16; Crow, 22; Starling, 24; Redpoll, 16; Goldfinch, 18; Slate-colored Junco, 28; White-breasted Nuthatch, 5; Chickadee, 34; Robin, 1. Total, 13 species, 171 individuals.—CLIFFORD M. CASE.

Hartford, Conn. (from Hartford north along the Connecticut River as far as the Farmington River).—Dec. 25. Clear; ice in river; temp. between 30° and 28°. Herring Gull, 2; American Menganser, 50; Red-shouldered Hawk, 1; Sparrow Hawk, 3; Hairy Woodpecker, 1; Downy Woodpecker, 2; Flicker, 2; Blue Jay, 6; Crow, 11; Starling, 200; Purple Finch, 4; Redpoll, 15; Goldfinch, 50; Pine Siskin, 15; White-throated Sparrow, 4; Tree Sparrow, 14; Junco, 15; Song Sparrow, 5; Brown Creeper, 9; White-breasted Nuthatch, 1; Black-capped Chickadee, 9; Golden-crowned Kinglet, 2. Total, 22 species, 421 individuals.—ALBERT PINKUS.

West Hartford, Conn.—Dec. 28; 7 to 11 A.M., 1 to 5 P.M. Clear to partly cloudy; light snow on ground; wind northwest, still to moderate; temp. 32° at start, 30° at return.

Twelve miles on foot, Observers together. Hungarian Partridge, 10 (two coveys); Sparrow Hawk, 1; Hairy Woodpecker, 2; Downy Woodpecker, 8; Blue Jay, 10; Crow, 2,400; Starling, 235; Redpoll, 10; Goldfinch, 20; Tree Sparrow, 6; Junco, 75; Song Sparrow, 2; White-breasted Nuthatch, 8; Black-capped Chickadee, 17. Total, 14 species, about 2,766 individuals. Dec. 21, observed on bank of Connecticut River, in East Hartford, two Swamp Sparrows; was within less than ten feet of them. They were roosting under upturned tree roots.—PAUL H. and EDWIN H. MUNGER.

Bristol, Conn. (Northwest section, included by Farmington, Jerome and Burlington Avenues).—Dec. 25; 8 A.M. to 3.30 P.M. Clear; 3 in. fresh snow; wind northwest, brisk; temp. 18° at start, 23° at return. Ten miles on foot. Sharp-shinned Hawk, 1; Downy Woodpecker, 1; Blue Jay, 5; Crow, 8; Starling, 580+; Tree Sparrow, 67; Junco, 13; White-breasted Nuthatch, 3; Chickadee, 4. Total, 9 species, 682 individuals.—FRANK BRUEN, ELBERT E. SMITH.

Madison, Conn.—Dec. 27; 8 A.M. to 5 P.M. Cloudy; 2 in. snow; wind variable, light; temp. 36° at start, 38° at return. Herring Gull, 2; Black Duck, 18; Bob-white, 9; Sharp-shinned Hawk, 3; Red-shouldered Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 2; Horned Lark, 35; Blue Jay, 3; Crow, 19; Starling, 130; Meadowlark, 30; Goldfinch, 17; Pine Siskin, 70; Tree Sparrow, 13; Junco, 8; Song Sparrow, 2; Black-capped Chickadee, 7. Total, 18 species, 370 individuals.—FRANKLIN FARREL III, GEORGE E. WOODBINE.

New London, Conn.—Dec. 26; 7.30 A.M. to 3.45 P.M. Clear; 2 in. snow; almost no wind at first, later light southwest; temp. 16° at start. Fifteen-mile walk. Herring Gull, 165; Ring-billed Gull, 6; Black Duck, 3; Scaup sp. 30; Golden-eye, 17; Bufflehead, 5; Sparrow Hawk, 1; Downy Woodpecker, 3; Flicker, 2; Blue Jay, 38; Meadowlark, 3; Crow, 13; Goldfinch, 7; Pine Siskin, 100; Junco, 15; Song Sparrow, 1; Tree Sparrow, 17; Myrtle Warbler, 5; Brown Creeper, 1; White-breasted Nuthatch, 8; Chickadee, 36. Total, 23 species, 491 individuals. Saw 11 Evening Grosbeaks Dec. 24.—FRANCES MINER GRAVES.

New Haven, Conn.—Dec. 28; time, 4½ hours; Hamden and North Haven, traveling southeast, A.M. New Haven Harbor, P.M. Clear; remnants of light snowfall from the 24th on ground; wind west, light; temp. about 35°. Herring Gull, 1,000; Black Duck, 1; Golden-eye, 150; Ruffed Grouse, 2; Red-tailed Hawk, 1; Downy Woodpecker, 2; Flicker, 1; Blue Jay, 6; Crow, 4; Red-winged Blackbird, 25; Meadowlark, 1; Grackle, 75; Goldfinch, 75; Pine Siskin, 20; White-throated Sparrow, 5; Tree Sparrow, 16; Junco, 6; Song Sparrow, 1; Myrtle Warbler, 30; White-breasted Nuthatch, 2; Chickadee, 50. Total, 21 species, about 1,500 individuals. (All larger numbers are approximate.) The Flicker, Red-winged Blackbird, and Grackle were observed at close range, under very favorable circumstances.—RICHARD ECKLES HARRISON, JOHN BARLOW DERBY.

Birdcraft Sanctuary to Fairfield Beach, Conn.—Dec. 25; sunrise to sunset. Fair; 3 in. snow on ground; wind northwest, strong; temp. 22°. Herring Gull, 90; Red-breasted Merganser, 3; Black Duck, 3; Greater Scaup, 30; Golden-eye, 20; Bufflehead, 4; Old Squaw, 25; White-winged Scoter, 35; Black-crowned Night Heron, 6; Pheasant, 9; Sparrow Hawk, 2; Downy Woodpecker, 3; Flicker, 1; Blue Jay, 5; Crow, 7; Starling, 35; Purple Finch, 3; Goldfinch, 12; White-throated Sparrow, 6; Tree Sparrow, 11; Junco, 15; Song Sparrow, 5; Myrtle Warbler, 7; White-breasted Nuthatch, 2; Chickadee, 4. Total, 26 species, 345 individuals.—FRANK NORAK. (Warden, Birdcraft Sanctuary.)

Norwalk, Conn.—Dec. 26; 9 A.M. to 1.30 P.M., 2.45 to 4.40 P.M. Partly cloudy to cloudy; 2 in. snow; wind west, light; temp. 20° at start, 34° at return. Herring Gull, 26; American Merganser, 3; Red-breasted Merganser, 2; Black Duck, 2; Scaup Duck, 5; Golden-eye, 2; Bufflehead, 13; White-winged Scoter, 19; Surf Scoter, 4; Marsh Hawk, 1; Sharp-shinned Hawk, 1; Cooper's Hawk, 1; Red-tailed Hawk, 1; Red-shouldered Hawk, 2; Sparrow Hawk, 2; Downy Woodpecker, 9; Horned Lark, 3; Blue Jay, 22;

Crow, 27; Starling, 52; Rusty Blackbird, 6; Purple Finch, 4; Tree Sparrow, 24; Junco, 6; Song Sparrow, 15; Swamp Sparrow, 1; Brown Creeper, 2; White-breasted Nuthatch, 4; Chickadee, 22. Total, 29 species, 288 individuals. The Swamp Sparrow and Rusty Blackbirds were both examined through ordinary opera glasses, both in good light, the Swamp Sparrow from 12 feet, and the Blackbirds, feeding on the ground in an open field, from 50 feet. Pine Siskins were observed Dec. 24, and Evening Grosbeaks have been reported from this locality since Dec. 20. One was seen by Mrs. W. K. Harrington this morning, but I reached the place too late to include it in my list.—ARETAS A. SAUNDERS.

Albany, N. Y. (west of city).—Dec. 21; 8.30 A.M. to 4.30 P.M. Very light snow nearly all day; 2 in. snow; wind south, light; temp. 16° at start, 22° at return. Ten miles on foot. Sparrow Hawk, 2; Hairy Woodpecker, 2; Downy Woodpecker, 2; Blue Jay, 7; Crow, 150; Starling, 76; Redpoll, 22; Goldfinch, 6; Tree Sparrow, 130; White-breasted Nuthatch, 2; Chickadee, 21. Total, 11 species, 420 individuals.—CLARENCE HOUGHTON.

Schenectady, N. Y. (Woodlawn and Central Park).—Dec. 28; 9 A.M. to 2 P.M. Clear; ground covered with snow; wind north, brisk; temp. 30°. Distance covered, about 8 miles. Ruffed Grouse, 2; Downy Woodpecker, 1; Blue Jay, 2; Crow, 10; Starling, 9; Tree Sparrow, 45; Song Sparrow, 1; White-breasted Nuthatch, 3; Chickadee, 10. Total, 9 species, 83 individuals.—WALTER PHILO.

Stuyvesant Falls, N. Y. (to Sunnysides, and Rossman's, and back along banks of the Kinderhook Creek).—Dec. 26; 11 A.M. to 5.30 P.M. Cloudy; 3 in. snow; wind south, rather strong; temp. 26° to 38°. About 8 miles on foot. Sharp-shinned Hawk, 1; Screech Owl, 1; Downy Woodpecker, 4; Crow, 39; Starling, 22; Junco, 37; Song Sparrow, 2; White-breasted Nuthatch, 4; Chickadee, 17. Total, 9 species, 127 individuals.—HENRY S. SHARPE.

Fort Plain, N. Y.—Dec. 28; 10 A.M. to 2 P.M., 3 to 5 P.M. Partly cloudy in forenoon, fair in afternoon; frequent severe snow flurries in forenoon; 6 in. snow; wind northwest, strong; temp. 30° at start, 20° at return. Route, Creek Valleys, wooded ravines, woods, open fields, Erie Canal towpath and vicinity of the Mohawk River. About 10 miles on foot. Black Duck, 2; Ring-necked Pheasant, 1; Downy Woodpecker, 4; Blue Jay, 2; American Crow, 9; Rusty Blackbird, 25 (one flock); Redpoll, 4; Tree Sparrow, 23; Song Sparrow, 1; Black-capped Chickadee, 13. Total, 10 species, 84 individuals. On Dec. 26 a Northern Shrike was observed devouring a Tree Sparrow.—DOUGLAS AYRES, JR.

Marcellus, N. Y.—Dec. 26; 8.45 A.M. to 4.30 P.M. Cloudy; 4 in. snow; wind south, light; temp. 29° at start, 38° at return. Twelve miles on foot. Fields, wood-lots, and cedar swamp. Blue Jay, 1 (heard several more in swamp but could not locate them); Pheasant, 1; Downy Woodpecker, 1; American Crow, 18; Tree Sparrow, 36+ (three flocks and one lone individual); White-breasted Nuthatch, 2; Chickadee, 12. Total, 7 species, about 71 individuals.—NEIL HOTCHKISS.

Syracuse, N. Y.—Dec. 27; 10 A.M. to 4 P.M. Cloudy; ground covered with snow; temp. 34°. Route, Liverpool and Onondaga Lake region. Ring-necked Pheasant, 1; Downy Woodpecker, 2; American Crow, 5; Tree Sparrow, 50; Song Sparrow, 4; Swamp Sparrow, 1; Brown Creeper, 1; White-breasted Nuthatch, 3; Chickadee, 17. Total, 9 species, 84 individuals.—NETTIE M. SADLER.

Geneva, N. Y. (City, Pre-emption Road Swamp, shore of Lake).—Dec. 22; 9 A.M. to 4 P.M. Bright day; 3 in. snow; no wind; temp. 30°. Horned Grebe, 1; Red-headed Duck, 1,500+; Canvasback Duck, 45+; Scaup, 2,000+; Golden-eye, 4; Ruffed Grouse, 1; Ring-necked Pheasant, 15; Great Horned Owl, 2; Hairy Woodpecker, 3; Downy Woodpecker, 12; Northern Flicker, 1; Blue Jay, 1; American Crow, 3,000+; Pine Grosbeak, 1; White-winged Crossbill, 3; Redpoll, 7; Goldfinch, 9; Tree Sparrow, 71; Junco, 10; Song Sparrow, 4; Swamp Sparrow, 1; Brown Creeper, 7; White-breasted Nuthatch, 19; Red-breasted Nuthatch, 1; Black-capped Chickadee, 101; Golden-crowned

Kinglet, 11; Robin, 1. Total, 27 species, 6,831+ individuals.—Otto McCreary, Mrs. H. H. Henderson, Dr. C. C. Lytle, W. W. Grant.

Geneva, N. Y. (to Flint Creek, Algerine Swamp, Pine Plains, and Lake Shore to Dresden).—Dec. 28; 8 A.M. to 5 P.M. Snow flurries in morning, fair for most of the day; wind northwest; temp. about 20°. Observers scattered. Horned Grebe, 3; Loon, 1; Herring Gull, 12; Ring-billed Gull, 1; American Merganser, 3; Redhead, about 9,000; Canvasback, 500; Scaup, 400; American Golden-eye, 32; Bufflehead, 4; Old-squaw, 3; Ring-necked Pheasant, 20; Sharp-shinned (?) Hawk, 1; Great Horned Owl, 1; Hairy Woodpecker, 7; Downy Woodpecker, 16; Crow, 1,200; Purple Finch, 1; Redpoll, 200; Goldfinch, 12; Pine Siskin, 2; Tree Sparrow, 49; Junco, 1; Song Sparrow, 4; Swamp Sparrow, 1; Winter Wren, 1; Brown Creeper, 5; White-breasted Nuthatch, 23; Red-breasted Nuthatch, 1; Black-cap Chickadee, 88; Brown-cap Chickadee, 3; Golden-crowned Kinglet, 7; Robin, 1. The Brown-cap Chickadees were of such a dusky hue that they evidently belong to the race recently named *nigricans* by Dr. Townsend. Total, 33 species, about 11,603 individuals.—W. W. Grant, E. T. Emmons, Mrs. H. H. Henderson, Richard Chase, Glenn Grant, William Lytle, Dr. C. C. Lytle, William Eddy, E. H. Eaton.

Rochester, N. Y. (Cobb's Hill, Highland Avenue, Pinnacle Hill, Highland Park and Port of Rochester).—Dec. 22; 7.30 A.M. to 2.30 P.M. Clear; 6 in. snow; wind northeast, light; temp 26° at start, 47° at finish. Eight miles on foot. Observers working mostly together. Herring Gull, 500+; Ring-billed Gull, 200+; Merganser, 75+; Ring-necked Pheasant, 12; Hairy Woodpecker, 1; Downy Woodpecker, 2; Red-headed Woodpecker, 4; Crow, 28; Pine Siskin, 5; Tree Sparrow, 5; Slate-colored Junco, 21; Song Sparrow, 2; Cedar Waxwing, 2; Migrant Shrike, 1; White-breasted Nuthatch, 4; Black-capped Chickadee, 33. Total, 16 species, 895+ individuals.—Gordon M. Meade, Richard M. Chase.

Rochester, N. Y. (Bushnell's Basin and vicinity).—Dec. 28; 9.30 A.M. to 3.30 P.M. Cloudy, with snow flurries in the forenoon, clear in the afternoon; 4 in. snow; wind north, strong; temp. 24° at start, 16° at return. Eight miles on foot. Ruffed Grouse, 2; Hairy Woodpecker, 4; Downy Woodpecker, 2; American Crow, 60; Lesser Redpoll, 30; Tree Sparrow, 15; Slate-colored Junco, 1; White-breasted Nuthatch, 10; Chickadee, 20. Total, 9 species, about 144 individuals.—Oscar F. Schaefer.

Rochester, N. Y. (Genesee Valley and Highland Parks, Cobbs Hill and Port of Rochester).—Dec. 22; 7.30 A.M. to 5 P.M. Fair; about 4 in. snow on ground; wind southeast, 10 miles per hour; temp. 18° to 35°. Loon, 3; Herring Gull, 400; Ring-billed Gull, 300; American Merganser, 15; Red-breasted Merganser, 2; Golden-eye, 13; Pheasant, 2; Downy Woodpecker, 2; Crow, 5; Bronzed Grackle, 1; Pine Siskin, 5; Tree Sparrow, 20; Slate-colored Junco, 3; Song Sparrow, 1; Brown Creeper, 1; Chickadee, 20; Labrador Brown-cap Chickadee, 1. Total, 17 species, 793 individuals. The Labrador Brown-cap Chickadee (*P. h. nigricans*) was first seen by both observers on Nov. 6, two birds, and the same two again on the 8th, with one seen on six dates since. The brown on the sides very easily separates it from our common Chickadee, while the mouse-colored cap divides it from the Acadian which we had abundant chance to study in the winter of 1913–14. Its notes, too, are very different from the others, there being only three, *Chickadee-dee*.—Wm. L. G. Edson, R. E. Horsey.

Rochester, N. Y. (Rochester to Float Bridge to West Webster, to Lake Ontario, to Durand Eastman Park, to Rochester).—Dec. 23. Partly cloudy; several in. snow; no wind; temp. 23° at start, 37° at return. Distance 16 miles, 13 on foot. Herring Gull, 9; Scaup, 3; Ring-necked Pheasant, 3; Hairy Woodpecker, 1; Downy Woodpecker, 4; Red-headed Woodpecker, 1; Redpoll, 9; Tree Sparrow, 185 (five flocks); Crow, 12; White-breasted Nuthatch, 2; Chickadee, 10. Total, 11 species, 239 individuals (approximately).—W. Gordon Zeeveld.

Hamburg, N. Y.—Dec. 28; 8.30 A.M. to 1.30 P.M. Cloudy, although clear late in the afternoon; ground lightly covered with snow in the open, about 4 in. snow in woods; wind mostly northwest, light; temp. 23° at start, 25° at return. About 8 miles on foot through two large wood-lots, one extensive hardwood swamp, and intervening farm land. Barred Owl, 2 (one in a hole, the other in a clump of hemlocks); Screech Owl, 1 (heard at dusk); Hairy Woodpecker, 1; Downy Woodpecker, 8; Blue Jay, 2; Crow, 12; White-winged Crossbill, flock of 14; Pine Siskin, flock of 35; Snowflake, a large flock, estimated at 500; Tree Sparrow, 24 (one singing!); Brown Creeper, 3; White-breasted Nuthatch, 6; Red-breasted Nuthatch, 2; Chickadee, 22; Golden-crowned Kinglet, 1. Total, 15 species, about 633 individuals. The White-winged Crossbills were observed at close range as they worked in various hemlock trees; several were rosy males. The crossed tips of the mandibles and white on wings noted.—THOMAS L. BOURNE.

Hall, N. Y.—Dec. 26; 9 A.M. to 3.30 P.M. Very cloudy; 4 in. snow; wind south, light; temp. 20° at start, 34° at finish. Distance covered 12 miles on foot east and west from Hall, inland. Observer alone. English Ring-necked Pheasant, 24; Hairy Woodpecker, 5; Downy Woodpecker, 7; Red-bellied Woodpecker, 2; Crow, 150; Redpoll, 3; Tree Sparrow, 15; White-breasted Nuthatch, 7; Chickadee, 10; Robin, 1. Total, 10 species, 224 individuals. The Red-bellied Woodpeckers have been regular visitors for several years at the feeding station, with the exception of the winter of 1917.—H. A. SUTHERLAND.

Rhinebeck, Dutchess Co., N. Y.—Dec. 25; 9 A.M. to 12 M., 3 to 4 P.M. Clear; ground snow-covered; wind north, strong to moderate; temp. 17° to 21°. Area covered, about 125 acres. Red-tailed Hawk, 1; Barred Owl, 2; Downy Woodpecker, 2; Blue Jay, 3; Crow, 3; Junco, 14; White-throated Sparrow, 1; Tree Sparrow, 6; Brown Creeper, 1; White-breasted Nuthatch, 3; Chickadee, 10. Total, 11 species, 46 individuals. Also seen during the week: Sparrow Hawk, 2; Redpoll, 22; Purple Finch, 1; Robin, 1; Starling, 75; Hairy Woodpecker, 1.—MAUNSELL S. CROSBY.

Cortland, N. Y. (to Gracie Swamp and back, via. the Marl Ponds).—Dec. 23; 9 A.M. to 6 P.M. Mostly clear; ponds frozen over; wind southeast, very light; temp. 16° at start, 30° at return. Fourteen miles on foot. Ruffed Grouse, 2; Hairy Woodpecker, 5; Downy Woodpecker, 4; Blue Jay, 7; American Crow, 600; Starling, 350 (one flock); Tree Sparrow, 2; Northern Shrike, 1; White-breasted Nuthatch, 15 (much more common than usual); Chickadee, 37; Robin, 2. Total, 11 species, 1,024 individuals. A Red-headed Woodpecker was seen the previous day. Nov. 28, White-winged Crossbills appeared in this locality, but have not been observed since Dec. 12. On Dec. 14 I identified positively an American Hawk Owl.—HAROLD H. AXTELL.

Yonkers, N. Y.—Dec. 25; 10 A.M. to 12.30 P.M. Clear; 2 in. snow; wind north; temp. 19° to 30°. Herring Gull, 1; Hawk, 1; Downy Woodpecker, 1; Blue Jay, 2; Crow, 4; Goldfinch, 1; White-throated Sparrow, 4; Tree Sparrow, 25; Slate-colored Junco, 5; Song Sparrow, 29; White-breasted Nuthatch, 2; Black-capped Chickadee, 8. Total, 12 species, 83 individuals.—CHARLES and WILLIAM MERRITT.

New York City (Jerome Reservoir, Van Cortlandt Park, Bronx Park, and Clason Point).—Dec. 22; 8.45 A.M. to 4.20 P.M. Cloudy in morning, clear in afternoon; 2 in. snow on ground; wind north, very light; temp. 30° to 36°. About 10 miles on foot. Observers in two parties until 10 A.M. Herring Gull, 2,100; Merganser, 11; Black Duck, 5; Scaup Duck, 32; over 200 ducks on the Sound too far out to identify; Black-crowned Night Heron, 60 (the Bronx Park colony); Killdeer, 1; Red-tailed Hawk, 4; Sparrow Hawk, 1; Kingfisher, 1; Hairy Woodpecker, 2; Downy Woodpecker, 15; Blue Jay, 15; Crow, 25; Starling, 550; Red-winged Blackbird, 8; Bronzed (?) Grackle, 1; Purple Finch, 1; Goldfinch, 6; Pine Siskin, 4; White-throated Sparrow, 65; Tree Sparrow, 75; Field Sparrow, 10; Slate-colored Junco, 45; Song Sparrow, 48; Brown Creeper, 8; White-breasted Nuthatch, 16; Black-capped Chickadee, 44; Robin, 2. Total, 28 species, over

3,100 individuals. Before meeting the rest of the party, the Messrs. Pell saw a bird in the Van Cortlandt Swamp which Morris Pell later identified as an Orange-crowned Warbler. He had three-power glasses, and was able to approach to within 8 feet of the bird. He had seen this species before, in the winter of 1916–17.—EDWARD G. NICHOLS, L. NELSON NICHOLS, S. MORRIS PELL, WALDEN PELL II.

New York City (Ramble, Central Park).—Dec. 25; 8.30 to 10.10 A.M. Clear; ground snow-covered; wind north, light; temp. 24° at start. Herring Gull, 2; Downy Woodpecker, 1; Starling, 1; White-breasted Nuthatch, 1; Black-cap Chickadee, 2. Total, 5 species, 7 individuals. Simpson Street subway station to Clason Point, Castle Hill and Unionport. 2.50 to 5.30 P.M. Clear; snow melted in places, bays open; wind north, brisk. Herring Gull, 2,000; Black Duck, 6; Scaup, 50; Red-tailed Hawk, 3; Starling, 400, mostly in one flock; Vesper Sparrow, 1; Tree Sparrow, 40 (flock); Song Sparrow, 11; Black-cap Chickadee, 1. Total, 9 species, about 2,500 individuals. The Vesper Sparrow was seen in the road (Sound View Avenue). It spent part of the time squatting upon the pavements between the trolley tracks, and eventually disappeared over a fence into a truck garden.—GEORGE E. HIX.

New York City (Central Park).—Dec. 23; 8.30 to 10.20 A.M., 12.30 to 4.50 P.M. Clear, cloudy in afternoon; light snow on ground; no wind. I covered the entire Park, 59th to 110th Streets. Herring Gull, 6; Sparrow Hawk, 1; Downy Woodpecker, 3; Starling, 112; White-throated Sparrow, 1; Fox Sparrow, 1; Brown Thrasher, 1; White-breasted Nuthatch, 2; Black-capped Chickadee, 50. Total, 9 species, 132 individuals.—BERNARD TREAD.

Sands Point, Long Island, N. Y.—Dec. 28; 8.30 A.M. to 5.10 P.M. (no observations between 1.30 and 3 P.M.). Clear in forenoon, cloudy in afternoon; ground partly snow-covered; wind southwest, moderately strong; temp. 40°. Eight miles on foot. Observers together. Herring Gull, 300; Mallard, 1; Red-shouldered (?) Hawk, 1; Sparrow Hawk, 1; Screech Owl, 2; Downy Woodpecker, 4; Flicker, 1; Crow, 60; Starling, 120; Meadowlark, 7; Goldfinch, 1; Pine Siskin, 5; Tree Sparrow, 12; Slate-colored Junco, 4; Song Sparrow, 1; Myrtle Warbler, 4; Black-capped Chickadee, 3; Hermit Thrush, 1; Total, 18 species, about 528 individuals. The Mallard was flying over creek, turned when near us. Could easily see large duck with white under wings, grey back, green head and white ring around neck. Dec. 27. Kingfisher, 1; White-throated Sparrow, 4; Robin, 1.—LOUISE B. LAIDLAW, LAIDLAW WILLIAMS.

St. James, Long Island, N. Y.—Dec. 22; 10 A.M. to 4 P.M. Overcast in morning, clearing in afternoon; several inches of thawing snow on ground; wind northeast and brisk in forenoon, none in afternoon; temp. 34° at start, 40° at end. Herring Gull, 100; Black Duck, 50; American Golden-eye, 15; Old-squaw, 2; White-winged Scoter, 25; Kingfisher, 1; Downy Woodpecker, 1; Flicker, heard; Blue Jay, 1; Crow, 50; Starling, 20; Tree Sparrow, 25; Junco, 35; Song Sparrow, 8; Myrtle Warbler, 12; (Wood Thrush or) Hermit Thrush, 1; Robin, 2. Total, 17 species, 349 individuals. A covey of Bob-white observed, but not counted, some days ago by another person.—JAMES W. LANE, JR.

Hempstead, Long Island, N. Y.—Dec. 25; 9 A.M. to 4 P.M. Clear; about 6 in. drifted snow; wind northwest; temp. about 30°. Bob-white, 1; Cooper's Hawk, 1; Red-shouldered Hawk, 1; Long-eared (?) Owl, 1; Horned Lark, 57; Blue Jay, 2; Crow, 221; Starling, 110+; Cowbird, 37 (one flock); Red Crossbill, 12; Goldfinch, 12; Pine Siskin, 1; White-throated Sparrow, 1; Tree Sparrow, 12; Slate-colored Junco, 156; Song Sparrow, 7; Brown Creeper, 2; Chickadee, 6. Total, 18 species, 640 individuals. The Cowbirds, Red Crossbills and Goldfinches were all in one flock, feeding on weed-stalks that projected above the snow. Was able several times to approach quite close and note the bronze heads of the male Cowbirds. Females and immatures made up about half of this group. Also had an opportunity to closely observe the Crossbills and positively identify. The Cooper's Hawk kept in the vicinity of the flock and often would scare them up and then strike

among them. Dec. 21, saw a Northern Shrike and a flock of 8 Pine Siskins at Valley Stream.—THEODORE G. ROEHNER.

Long Beach, Nassau Co., Long Island, N. Y.—Dec. 21; 10 A.M. to 4.10 P.M. Mostly cloudy; ground mostly snow-covered; wind northeast, moderate; temp. 29° at 2 P.M. Eleven miles on foot. Observers together. Horned Grebe, 2; Black-backed Gull, 8; Herring Gull, 250; Red-breasted Merganser, 15; Black Duck, several hundred; Scaup sp., 200; Golden-eye, several; Old-squaw, 18; White-winged Scoter, 25; Surf Scoter, 25; Canada Goose, flock of 10; Marsh Hawk, 1; Sparrow Hawk, 2; Horned Lark, 75; Crow several; Starling, 30; Snow Bunting, flock of 250; Lapland Longspur, 2; Ipswich Sparrow, 11; Savannah Sparrow, 3 (well seen in company with Ipswich); Song Sparrow, 4. Total, 21 species, about 1,500 individuals.—W. L. SCLATER, E. R. P. JANVRIN, D. P. GILMORE, C. H. ROGERS.

Long Beach, Long Island, N. Y.—Dec. 27. An overcast moderating day, with thick haze off shore; a low broken swell on the ocean and quiet surf; much remaining shallow snow; wind southwest, light; temp. 33° to 38°. Horned Grebe, 30 or more, largest group 5; Black-backed Gull, many adult and immature; Herring Gull, thousands; Ring-billed Gull, 1; Red-breasted Merganser, a pair; Black Duck, many in "rafts" off shore, mostly far out, few on the wing; Greater Scaup, 2; Lesser Scaup (?) a flock of 11 small-appearing birds from the meadow creeks were doubtless this; Old-squaw, common, largest group 12; White-winged Scoter, flocks of 12, 6 and 3; Marsh Hawk, 1; Sparrow Hawk, 1; Horned Lark, 3 together and 1; Prairie Horned Lark (?) 2 together, determination not quite satisfactory; Crow, common; Starling, flock of about 200, and a few in the town; Pine Siskin, flock of 6, and 1; Snow Bunting, flock of perhaps more than 1,000; Lapland Longspur, 1 with the preceding; Ipswich Sparrow, 2; Tree Sparrow, small flock; Song Sparrow, 7; Myrtle Warbler, locally numerous in tracts of bayberry. Total 21 species +2 (?), several thousand individuals.—E. P. BICKNELL.

Massapequa, Long Island, N. Y. (and vicinity).—Dec. 27; 10.30 A.M. to 8 P.M. Cloudy; wind southwest, light; temp. 30° to 35°. Black-backed Gull, 2; Herring Gull, 500+; American Merganser, 2; Black Duck, 250+; Scaup Duck, 400+ (doubtless the Greater Scaup as that species only was killed there on Dec. 29); Canada Goose, 150+; Great Blue Heron, 1; Black-crowned Night Heron, 1; Marsh Hawk, 1; Sparrow Hawk, 2; Downy Woodpecker, 2; Blue Jay, 12; American Crow, 20; Fish Crow, 15; Starling, 14; Meadowlark, 17; American Goldfinch, 8; Pine Siskin, 5; Tree Sparrow, 8; Slate-colored Junco, 16; Song Sparrow, 9; Myrtle Warbler, 23; Brown Creeper, 1; White-breasted Nuthatch, 2; Black-capped Chickadee, 19. Total, 25 species, 1,480+ individuals. On Dec. 29, 2 Flickers were observed. Large numbers of Black Duck, Canada Geese, Herring Gulls, and unidentified ducks were observed in Great South Bay, about 400 to 500 yards off shore.—ALEX. B. KLOTS, CLEMENT P. COBB.

Mastic, Long Island, N. Y.—Dec. 28; all day. Clear; patches of snow and bare ground; wind northwest, moderate; temp. 30° sunrise, 38° sunset. About a 2-mile radius from farm buildings, garden and orchard, including deciduous and pitch pine woods, brushy pastures, bordering salt marshes and bay (frozen, with strip of open water along shore), open heads of fresh-water creeks. Observers together. Black-backed Gull, 10; Herring Gull, 40; American Merganser, 25; Black Duck, 110; Golden-eye Duck, 25; White-winged Scoter, 1; Great Blue Heron, 4 (separate); Wilson's Snipe, 1; Bob-white, 7 (tracks of several other covies); Red-tail Hawk, 2; Bald Eagle, 1; Sparrow Hawk, 1; Horned Owl, 3; Downy Woodpecker, 2; Flicker, 1; Blue Jay, 20; American Crow, 35; Starling, 110; Meadowlark, 10; Cowbird, 1; Goldfinch, 10; Pine Siskin, 1; Tree Sparrow, 15; Junco, 4; Song Sparrow, 5; Myrtle Warbler, 180; White-breasted Nuthatch, 6; Chickadee, 15. Total, 28 species, 645 individuals. Wilson's Snipe put up from wooded brushy head of creek with characteristic note; Cowbird perched in tree-top with Starlings, comparative size, details of shape, and diagnostic flight noted.—C. F., W. F. and J. T. NICHOLS.

East Marion, Long Island, N. Y.—Dec. 26; 9.30 A.M. to 3.30 P.M. Sunny in forenoon, cloudy in afternoon; ground partly covered with light snow; wind southwest, light; temp. 26° at start, 33° at return. About 4 miles on foot, along bay shore and woods roads. Horned Grebe, 3; Black-backed Gull, 1; Herring Gull, 50; Scaup, 200+; American Golden-eye, 12; Old-squaw, 5; White-winged Scoter, 1; distant raft of ducks composed largely of Surf Scoters, 50; Downy Woodpecker, 1; Horned Lark, 17; Blue Jay, 2; Crow, 80+; Redpoll, 18 (some of flock at times almost within reaching distance, and all markings visible both with and without field glasses); American Goldfinch, 8; Tree Sparrow, 3; Slate-colored Junco, 9; Song Sparrow, 16; Myrtle Warbler, 30; Black-capped Chickadee, 5. Total, 19 species, about 511 individuals. Two White-winged Crossbills were seen Dec. 3 and 4.—MABEL R. WIGGINS.

Orient, Long Island, N. Y.—Dec. 28; 6 A.M. to dark. Clear; ground mostly bare, pond and swamps mostly frozen; wind west, light to fresh; temp. 27° to 35°. Holbœll's Grebe, 1; Horned Grebe, 24; Loon, 30; Great Black-backed Gull, 1; Herring Gull, 350; American Merganser, 2; Red-breasted Merganser, 150; Mallard, 7 (6 males); Black Duck, 70; Greater Scaup Duck, 300; Golden-eyed Duck, 11; Bufflehead, 100; Old-squaw, 250; White-winged Scoter, 1,000; Surf Scoter, 25; Canada Goose, 1 (associating with a flock of Gulls); King Rail, 1; Virginia Rail, 1 (4 others taken within a week); Wilson's Snipe, 1; Marsh Hawk, 2; Sharp-shinned Hawk, 1; Cooper's Hawk, 1; Red-tailed Hawk, 2; Red-shouldered Hawk, 1; Screech Owl, 1; Kingfisher, 1; Downy Woodpecker, 2; Flicker, 4; Horned Lark, 400; Crow, 100; Starling, 150; Meadowlark, 5 (one singing); Goldfinch, 10; Pine Siskin, 35; Snow Bunting, 300; Tree Sparrow, 60; Junco, 30; Song Sparrow, 75; Fox Sparrow, 1; Myrtle Warbler, 65; Catbird, 1; Chickadee, 38; Robin, 150 (one flock). Total, 43 species, 3,760 individuals. Both Red- and White-winged Crossbills and a Ruby-crowned Kinglet have been recorded within a few days.—ROY LATHAM.

Greenport, Long Island, N. Y. (across Gardiner's Bay to Gardiner's Island and return).—Dec. 21; 8 A.M. to 3.30 P.M. Overcast at start; snowing from 8.30 A.M. to 1.30 P.M., then partially clearing; ground snow-covered, marshes and ponds mostly frozen; wind northeast, light; temp. 28° to 20°. Observers together. Horned Grebe, 8; Loon, 4; Great Black-backed Gull, 4; Herring Gull, 25; American Merganser, 22; Red-breasted Merganser, 25; Mallard, 1; Black Duck, 100; Baldpate, 23; Golden-eye, 50; Old-squaw, 200; White-winged Scoter, 400; Surf Scoter, 250; Canada Goose, 70; Brant, 3; Great Blue Heron, 1; Black-crowned Night Heron, 2 (excellent view); Pheasant, 10; Marsh Hawk, 1; Hawk (Red-tail or Rough-leg), 1; Short-eared Owl, 1; Downy Woodpecker, 1; Flicker, 3; Blue Jay, 1; Crow, 10; Starling, 50; Meadowlark, 2; Tree Sparrow, 12; Song Sparrow, 10; Tree Swallow, 1 (an anomalous sight in a winter snowstorm; bird well seen, the green in the back made out even through the snow and bad light); Myrtle Warbler, 10; Chickadee, 3. Total, 32 species, 1,304 individuals. The snowstorm responsible for the few land birds noted, and the recent cold wave for the comparative scarcity of birds in general. Hawks, once remarkably abundant in winter, are now systematically trapped and shot.—LORD WILLIAM PERCY, LUDLOW GRISCOM.

New York City (from Battery via St. George to and at Grant City and Moravian Cemetery, Staten Island).—Dec. 27; 11.20 A.M. to 4.20 P.M. Cloudy (foggy on water); ground mostly snow-covered; wind southwest, light; temp. 35° at 3.30 P.M. Five miles by boat, 5 miles by railroad, chiefly in the Cemetery on foot. Black-backed Gull, 1 adult; Herring Gull, 145; Bonaparte's Gull, 2; Downy Woodpecker, 1; Blue Jay, 2; American Crow, 8; Starling, 8; Red Crossbill, flock of 13; Goldfinch, 1; Tree Sparrow, 1; Junco, flock of 4; Song Sparrow, 1; Fox Sparrow, 1; Cardinal, 1 pair; Myrtle Warbler, flock of 3; Black-cap Chickadee, flock of 6; Golden-crowned Kinglet, 1; Hermit Thrush, 1; Robin, 2; Bluebird, 1 male. Total, 20 species, about 205 individuals.—CHARLES H. ROGERS.

Moravian Cemetery, Staten Island, N. Y.—Dec. 21; 10.30 A.M. to 4 P.M. Clear;

wind light; temp. 20° to 25°. Five miles on foot; ferry across Upper Bay. Herring Gull, 29; Bonaparte's Gull, 1; Long-eared Owl, 1; Hairy Woodpecker, 1; Blue Jay, 6; Crow, 4; Starling, 4; Red Crossbill, 26 (one flock); Redpoll, 2; White-throated Sparrow, 1; Tree Sparrow, 16; Junco, 1; White-breasted Nuthatch, 1; Tufted Titmouse, 1; Black-capped Chickadee, 300+; Brown-capped Chickadee, 1; Golden-crowned Kinglet, 1. Total, 17 species, 396+ individuals. Bonaparte's Gull observed through field-glasses at 30 feet. The Crossbills were very tame. The Brown-capped Chickadee was also very tame, and together with the Tufted Tit, approached to within 6 feet of me.—RALPH FRIEDMANN.

Hackettstown, N. J.—Dec. 27; 7.30 to 9.30 A.M., 12.30 to 2.30 P.M. Partly cloudy; ground mostly covered with about 3 inches of snow; wind south, light; temp. 30°. A fraction of the time at home about feeding station but most of the time on foot between Waterloo and Hackettstown. Sparrow Hawk (?), 1; Downy Woodpecker, 1; Flicker (?), 1; Blue Jay, 2; Crow, 19; Starling, 19; Purple Finch, 7; Goldfinch, 54; Tree Sparrow, 15; Junco, 4; Song Sparrow, 1; Nuthatch (probably White-breasted), 1; Chickadee, 4. Total, 13 species, about 129 individuals.—MARY PIERSON ALLEN.

Englewood Region, N. J. (Overpeck Creek and Phelps Estate).—Dec. 26; 11 A.M. to 4.30 P.M. Cloudy; 2 in. snow; wind south; temp. 28°. Observers together. Black-backed Gull, 1; Herring Gull, 50; Marsh Hawk, 1; Sharp-shinned (?) Hawk, 1; Red-tailed Hawk, 2; Rough-legged Hawk, 1; Sparrow Hawk, 2; Barred Owl, 1; Hairy Woodpecker, 3; Downy Woodpecker, 4; Flicker, 1; Blue Jay, 7; Crow, 12; Starling, 13; Meadowlark, 2; Goldfinch, 20; Pine Siskin, 12; White-throated Sparrow, 2; Tree Sparrow, 2; Slate-colored Junco, 22; Song Sparrow, 14; Swamp Sparrow, 1; Brown Creeper, 2; White-breasted Nuthatch, 1; Chickadee, 7; Golden-crowned Kinglet, 2. Total, 26 species, 186 individuals.—WALDEN PELL 2d., S. MORRIS PELL.

Hawthorne, Glen Rock and Ridgewood, N. J.—Dec. 25; 9 A.M. to 3.30 P.M. Clear; 2 in. snow; wind southwest, brisk; temp. 28° at start, 36° at return. Nine miles afoot. Hairy Woodpecker, 1; Downy Woodpecker, 3; Horned Lark, 2; Blue Jay, 5; American Crow, 17; Starling, 78; Purple Finch, 1; Goldfinch, 5; Pine Siskin, 8; White-throated Sparrow, 3; Tree Sparrow, 10; Junco, 4; Song Sparrow, 6; Cedar Waxwing, 3; White-breasted Nuthatch, 1; Black-capped Chickadee, 7; Bluebird, 3. Total, 17 species, 157 individuals.—LOUIS S. KOHLER.

Newark, N. J.—Dec. 25; 9 to 10.30 A.M., 3 to 4 P.M. Clear; 2 in. snow; temp. 18° to 22°. Along edge and in northern section of Branch Brook Park, Second River—distance about 5 miles. Auto ride to South Orange, where the Grackles were found in a house where they had evidently accompanied Santa Claus down the chimney. Downy Woodpecker, 1; Crow, 1; Starling, 7; Purple Grackle, 2; White-throated Sparrow, 13; Tree Sparrow, 2; Junco, 6; Song Sparrow, 2; Brown Creeper, 2; Chickadee, 7. Total, 10 species, 43 individuals. It may be of interest that a Long-eared Owl sat on a tree in our back yard in residential section of Newark all day Dec. 19. It was very tame and permitted a positive identification. Also the following late lingerers in Branch Brook Park: Robin, Dec. 20; Hermit Thrush, Dec. 15.—R. F. HAULENBEEK.

South Orange, N. J.—Dec. 26; 10 A.M. to 1.30 P.M. Cloudy; 2 in. snow on ground; wind, moderate; temp. 15° to 20°. Along crest of South Mountain Reservation to Washington Rock, returning to South Orange along base of Mountain. Distance about 7 miles. Red-shouldered Hawk, 1; Downy Woodpecker, 4; Blue Jay, 20; Starling, 2; Tree Sparrow, 20; Junco, 18; Song Sparrow, 5; Cardinal, 2; White-breasted Nuthatch, 8; Chickadee, 12; also a large Hawk not positively identified, but probably a Red-tailed Hawk. Total, 10 species, 92 individuals.—ROBERT WOLFE, GRAHAM ROSKEIN.

Morristown, N. J.—Dec. 28; 8 to 11 A.M., 1.30 to 5.15 P.M. Fair; 1 in. snow on ground, with some bare places; wind northwest, light, gradually rising; temp. 29° to 35°. Burnham Park, Sherman Hill, Lake Road, Speedwell Park, along D. L. & W. and Erie tracks

to disposal beds. Ruffed Grouse, 1; Red-tailed Hawk, 1; Sparrow Hawk, 1; Kingfisher, 1; Hairy Woodpecker, 2; Downy Woodpecker, 5; Blue Jay, 32; Crow, 42; Starling, 25; Pine Grosbeak, 2 (observed only in flight, and identified chiefly by note; I think there can be no doubt of the correctness of the record); Purple Finch, 5; Red Crossbill, 7; Goldfinch, 6; Pine Siskin, 5; White-throated Sparrow, 1; Tree Sparrow, 48; Field Sparrow, 1; Junco, 63; Song Sparrow, 9; Cardinal, 1; Brown Creeper, 9; White-breasted Nuthatch, 17; Chickadee, 51; Golden-crowned Kinglet, 3. Total, 24 species, 338 individuals. On Dec. 24, crossing the Hackensack Meadows on a P.R.R. train, at noon, I saw 7 Swallows (undoubtedly White-bellied) on the telegraph wires.—R. C. Caskey.

Westfield, N. J. (to Second Watching Mountain and back).—Dec. 25; 8.15 A.M. to 3.20 P.M. Clear; 2 in. fresh fallen snow; wind west, moderate; temp. 19° at start, 22° at return. About 12 miles on foot. Red-shouldered (?) Hawk, 1; Ring-neck Pheasant, 4; Hairy Woodpecker, 2; Downy Woodpecker, 3; Blue Jay, 3; Crow, 7; Starling, 3; American Goldfinch, 1; Tree Sparrow, 18; Junco, about 20; Brown Creeper, 2; White-breasted Nuthatch, 1; Chickadee, 11. Total, 13 species, 66 individuals.—Frank Allatt.

Plainfield, N. J. (to Ash Swamp and back).—Dec. 28; 8.30 A.M. to 5.45 P.M. Clear; ground mostly lightly covered with snow; little wind; temp. 30° at start. Ring-necked Pheasant, 4 (flock); Red-tailed Hawk, 1; Red-shouldered Hawk, 2; Sparrow Hawk, 1; Barred Owl, found fresh roost and probably glimpsed Owl as it flew; Hairy Woodpecker, 3; Downy Woodpecker, 9; Flicker, 1; Blue Jay, 12; American Crow, 50; Starling, 25; Grackle (or Rusty Blackbird ?), 1; White-winged Crossbill, 1; Goldfinch, 7; Pine Siskin, 12; Vesper Sparrow, 1; White-throated Sparrow, 8; Tree Sparrow, 70; Field Sparrow, 3 (flock); Junco, 40; Song Sparrow, 17; Swamp Sparrow, 1; Cardinal, 5; Myrtle Warbler, 12; Brown Creeper, 2; White-breasted Nuthatch, 9; Red-breasted Nuthatch, 1; Tufted Titmouse, 3; Black-capped Chickadee, 12. Total, 29 species, 314 individuals.—W. DeW. Miller.

New Brunswick, N. J.—Dec. 27; 8.50 A.M. to 1.40 P.M. Cloudy; 1 in. snow; wind, west, very light; temp. 32° to 41°. Cooper's Hawk, 2; Red-tailed Hawk, 3; Hairy Woodpecker, 4; Downy Woodpecker, 7; Blue Jay, 9; American Crow, 49; Fish Crow, 19; Starling, 147; Purple Finch, 8; Goldfinch, 11; White-throated Sparrow, 1; Tree Sparrow, 2; Junco, 88; Song Sparrow, 13; Brown Creeper, 2; White-breasted Nuthatch, 2; Tufted Titmouse, 17; Black-capped Chickadee, 26; Carolina Chickadee, 8. Total, 19 species, 418 individuals. Robins, Myrtle Warblers and Horned Larks were seen recently.—Stuart T. Danforth.

Millstone, N. J. (to Weston Mill along river, cross country to East Millstone, along river to Blackwells Mills, cross country to Millstone).—Dec. 23; 8 A.M. to 6 P.M. Clear, light clouds toward night; light snow remaining from previous week of snow and zero weather; wind west, very light; temp. 8 A.M. 20°, 6 P.M. 40°. Fifteen miles on foot; area 85 square miles, approximately. Mallard Duck, 21; Ring-necked Pheasant, 12; Mourning Dove, 20 (flock); Marsh Hawk, 2; Sparrow Hawk, 2; Barn Owl, 1; Screech Owl, 2; Northern Downy Woodpecker, 13; Northern Flicker, 2; Horned Lark, 60 (flock); Blue Jay, 24; American Crow, 5,000 (est.); Starling, 60; Purple Grackle, 1; American Goldfinch, 8; White-throated Sparrow, 4; Tree Sparrow, 200; Slate-colored Junco, 110; Song Sparrow, 16; Cardinal, 5; Northern Shrike, 1; Brown Creeper, 4; White-breasted Nuthatch, 6; Tufted Titmouse, 24; Black-capped Chickadee, 30; Robin, 2. Total, 26 species, 5,630 individuals, approximately.—N. C. Wyckoff.

Atlantic City, N. J. (to Brigantine Island and back).—Dec. 26; 11 A.M. to 4 P.M. Clear; patches of snow; wind south, strong, but lighter in the afternoon; temp. 30° at start, 42° at return. About 5 miles on foot, the rest of the time birds observed from gunning skiff. Went up the island along the seashore, and returned along the meadow and inland creek shore. Observers together. Horned Grebe, 1; Great Black-backed

Gull, 10; Herring Gull and Ring-billed Gull, 200; Red-breasted Merganser, 10; Black Duck, 2; Old-squaw, 5; White-winged Scoter and Surf Scoter, 30; Marsh Hawk, 2; Horned Lark, 12; Tree Sparrow, 20; Myrtle Warbler, 10. Total, 13 species, about 300 individuals.—FRANKLIN P. and HOWELL E. COOK.

Mount Holly, N. J.—Dec. 28; 9 A.M. to 5 P.M. Cloudy, ground partly covered with snow; temp. 28° at start, 38° at return. Seven miles on foot. Observers together most of time. Turkey Vulture, 3; Red-shouldered Hawk, 1; Sparrow Hawk, 3; Hairy Woodpecker, 1; Downy Woodpecker, 7; Blue Jay, 13; Crow (roost), 10,000 (est.); Starling, 25; Goldfinch, 8; Pine Siskin, 35 (flock); White-throated Sparrow, 20; Tree Sparrow, 13; Field Sparrow, 2; Junco, 40; Song Sparrow, 14 (one singing); Cardinal, 5; Catbird, 1 (saw, and heard calls several times not 15 feet away); Brown Creeper, 5; White-breasted Nuthatch, 6; Tufted Titmouse, 11; Carolina Chickadee, 10; Hermit Thrush, 1. Total, 22 species, 10,224 individuals.—MR. and MRS. NELSON, D. W. PUMYEA.

Moorestown, N. J. (valleys of the Delaware, Rancocas, Pensauken and Coopers Creeks).—Dec. 25; 6.35 A.M. to 4.30 P.M. Clear to partly cloudy; 2 in. snow; wind northwest, fresh; temp. 22° at start. About 45 miles in auto and afoot. Three separate groups. Herring Gull, 5; Merganser (sp. ?) 4; Mourning Dove, 11; Turkey Vulture, 4; Marsh Hawk, 2; Sharp-shinned Hawk, 1; Red-tailed Hawk, 4; Red-shouldered (?) Hawk, 1; Sparrow Hawk, 5; Long-eared Owl, 1; Kingfisher, 1; Downy Woodpecker, 6; Hairy Woodpecker, 2; Yellow-bellied Sapsucker, 1; Phœbe, 1; Horned Lark, 62; Blue Jay, 2; Crow, 608; Starling, 114; Rusty Blackbird, 8; Meadowlark, 59; Purple Finch, 9; Goldfinch, 10; White-throated Sparrow, 14; Tree Sparrow, 8; Junco, 166; Song Sparrow, 42; Cardinal, 22; Myrtle Warbler, 1; Winter Wren, 2; Carolina Wren, 2; Brown Creeper, 5; White-breasted Nuthatch, 1; Red-breasted Nuthatch, 1; Tufted Titmouse, 7; Black-capped Chickadee, 9; Golden-crowned Kinglet, 2. Total, 36 species (1 uncertain), 1,203 individuals. Crossbill (sp. ?) seen on the 20th, 23d and 24th.—M. ALBERT LINTON, ANNA A. MICKLE, SAMUEL N. RHOADS, ALICE C. DARNELL, ALICE M., ELLEN C., and JOHN D. CARTER, GEORGE H. HALLETT, JR., WM. BACON EVANS.

Camden, N. J. (and vicinity).—Dec. 28; 8 A.M. to 4 P.M. Cloudy; ground partly snow-covered; wind southwest, light; temp. 30° to 40°. Herring Gull, 40; Black-crowned Night Heron, 1; English Pheasant, 2; Red-tailed Hawk, 2; Sparrow Hawk, 5; Barn Owl, 2 (one dead); Long-eared Owl, 3; Screech Owl, 1; Blue Jay, 5; Crow, 200; Starling, 75; Meadowlark, 5; Goldfinch, 1; White-throated Sparrow, 25; Tree Sparrow, 30; Junco, 40; Song Sparrow, 20; Cardinal, 10; White-breasted Nuthatch, 1; Golden-crowned Kinglet, 1; Hermit Thrush, 1. Total, 21 species, 470 individuals.—JULIAN K. POTTER.

Delaware River in Pennsylvania, opposite Trenton, N. J.—Dec. 25; 11.30 A.M. to 1 P.M. Clear; 2 in. snow; wind northwest, brisk; temp. 25°. Downy Woodpecker, 3; Crow, 2; Siskin, 15; White-throat, 2; Tree Sparrow, 12; Song Sparrow, 5; Cardinal, 2; Winter Wren, 1; Tufted Titmouse, 2; Chickadee, 6. Total, 10 species, 50 individuals.—W. L. DIX.

Williamsport, Pa.—Dec. 23, 8.30 A.M. to 4.15 P.M. Cloudy; 5 in. snow; no wind; temp. 25° average. About 12 miles, both covering same ground. American Merganser, 2; Hairy Woodpecker, 1; Downy Woodpecker, 20; Crow, 115; Evening Grosbeak (female) 1; American Goldfinch, 1; Tree Sparrow, 80; Slate-colored Junco, 10; Song Sparrow, 7; Cardinal, 7; Brown Creeper, 6; White-breasted Nuthatch, 17; Tufted Titmouse, 21; Black-capped Chickadee, 22; Golden-crowned Kinglet, 2; Robin, 1. Total, 16 species, 313 individuals. This is our first record for the Cardinal, and its abundance shows that it is now well established. The White-winged Crossbill was seen Dec. 3.—JOHN P. and CHARLES V. P. YOUNG.

Ulster, Bradford Co., Pa.—Dec. 26; 10 A.M. to 12 M., 1 P.M. to 4 P.M. Cloudy; 3 in. snow; wind south, light; temp. 20° at start, 29° at return. Six to 7 miles on foot through

woods and fields. Observers together. Ruffed Grouse, 6 (one flock); Hawk (Sharp-shinned ?), 1; Hairy Woodpecker, 1; Downy Woodpecker, 5; Blue Jay, 2; American Crow, 45; Starling, 21; Goldfinch, 1; Tree Sparrow, 54; White-breasted Nuthatch, 9; Black-capped Chickadee, 25. Total, 11 species, 170 individuals. Meadowlark seen on Dec. 23.—Miss Martha McMorran, Mrs. O. J. Van Winkle, Mrs. J. R. Eiffert, Mrs. F. E. Mather.

Reading, Pa. (**to State Hill via Tulpehocken Creek**).—Dec. 26; 9.30 A.M. to 3.30 P.M. Overcast; 5 in. snow; wind southwest, light; temp. 19° at start, 26° at return. About 10 miles afoot. American Merganser, 8 (one flock, all females); Red-tailed Hawk, 3; Red-shouldered Hawk, 1; Sparrow Hawk, 2; Belted Kingfisher, 1; Downy Woodpecker, 5; Horned Lark, 12 (one flock); Crow, about 250; Starling, 10; Meadowlark, 1; Evening Grosbeak, 1 (this was seen under the best possible conditions, feeding with a pair of Cardinals on a sheltered hillside. Allowed a close approach, but finally flew off with a rolling *cheerp, cheerp* after I had it under observation for some 10 minutes. It was feeding on the buds of several shrubs and low trees); Tree Sparrow, 7 (one flock); Junco, 5 (one flock); Song Sparrow, 8; Cardinal, 4; Brown Creeper, 5; Tufted Titmouse, 3; Chickadee, 12 (two flocks, 8 and 4); Golden-crowned Kinglet, 2. Total, 19 species, 341 individuals.—Earl L. Poole, Wendell Kern.

Reading, Pa.—Dec. 22; 8 A.M. to 4.30 P.M. Partly cloudy; 4 in. snow; wind west, light; temp. 18° at start. Observers together. Sharp-shinned Hawk, 1; Red-tailed Hawk, 1; Sparrow Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 13; Crow, 15; Starling, 40; Meadowlark, 6; Purple Finch, 11; White-throated Sparrow, 4; Tree Sparrow, 15; Junco, 38; Song Sparrow, 8; Cardinal, 6; White-breasted Nuthatch, 6; Chickadee, 12; Robin, 4; Bluebird, 8. Total, 18 species, 190 individuals.—Mr. and Mrs. G. Henry Mengel.

Limerick, Pa. (**Limerick, Collegeville, Schwenkville along Perkiomen River, Stone Hills and back**).—Dec. 24; 7 A.M. to 5.45 P.M. Cloudy; 3 in. snow fell during day; wind northwest, moderate; temp. 26° at start, 32° at return. Eighteen miles on foot, 8 miles on trolley. American Merganser (?), 6; Red-shouldered Hawk, 3; Sparrow Hawk, 1; Barred Owl, 1; Screech Owl, 1; Hairy Woodpecker, 1; Northern Downy Woodpecker, 8; Crow, about 10,000; Starling, 18; Meadowlark, 1; Pine Grosbeak, 1; American Goldfinch, 1; Tree Sparrow, 75; Slate-colored Junco, 75; Song Sparrow, 25; Fox Sparrow, 3; Cardinal, 1; White-breasted Nuthatch, 1. Total, 18 species, 220 individuals + Crows.—Edward K. Ziegler.

West Chester, Pa.—Dec. 25; 10.30 A.M. to 3.30 P.M. Clear; ground covered with 2 in. snow; wind northwest, brisk; temp. 28° at start, 35° on return. Ducks (species uncertain), 2; Red-tailed Hawk, 2; Red-shouldered Hawk, 1; Sparrow Hawk, 2; Screech Owl, 1; Hairy Woodpecker, 1; Downy Woodpecker, 6; Flicker, 1; Crow, 259; Starling, 35; Slate-colored Junco, 56; Song Sparrow, 9; Cardinal, 8; White-breasted Nuthatch, 3; Chickadee, 2. Total, 15 species, 388 individuals.—C. E. Ehinger.

Chestnut Hill (Philadelphia), Pa. (**Cresheim Creek northeast to near Glenside, Pa.**).—Dec. 28; 10.45 A.M. to 3.15 P.M. Cloudy; light covering of old snow; wind west, light; temp. 38° to 40°. About 6 miles on foot. Hairy Woodpecker, 1; Crow, 24; Starling, 24; Purple Finch, 3; White-throated Sparrow, 1; Tree Sparrow, 15; Field Sparrow, 2; Junco, 50; Song Sparrow, 4; Cardinal, 9; Brown Creeper, 1; Carolina Wren, 1; Winter Wren, 2. Total, 13 species, 137 individuals. A Purple Grackle seen at Chestnut Hill on Dec. 25.—George Lear.

Lititz, Pa. (**northern Lancaster County, mainly in Hammer Creek Valley**).—Dec. 28; 7.45 A.M. to 5.15 P.M. Cloudy; 4 in. snow; wind northwest, light; temp. 32° at start, approximately same throughout day. Party divided over two routes, half the time. Total ground covered 26 miles on foot. Bob-white, 156 (15 coveys); Ruffed Grouse, 6; Ring-neck Pheasant, 4; Turkey Vulture, 5; Hawk (Goshawk ?), 1; Red-tailed Hawk, 1;

Red-shouldered Hawk, 1; Sparrow Hawk, 6; Screech Owl, 1; Belted Kingfisher, 1; Hairy Woodpecker, 1; Downy Woodpecker, 30; Northern Flicker, 7; Crow, 600; Starling, 103; Meadowlark, 8; Goldfinch, 9; Tree Sparrow, 190; Junco, 340; Song Sparrow, 37; Cardinal, 8; Winter Wren, 1; White-breasted Nuthatch, 19; Tufted Titmouse, 1; Chickadee, 9. Total, 25 species, about 1,535 individuals. The long list of game birds was made possible by a favorable tracking snow, and a good bird dog.—HERBERT H. BECK, ABRAHAM BECK MILLER, CHARLES S. BRICKER.

York, Pa. (along Susquehanna River and Impounding Dam).—Dec. 26; 8.15 A.M. to 4.30 P.M. Cloudy; 2 in. snow; waterways entirely frozen; wind west, light; temp. 21° at start, 31° at return. Five miles on foot. Observers together. Cooper's Hawk, 1; Sparrow Hawk, 2; Downy Woodpecker, 4; Yellow-bellied Sapsucker, 1; Flicker, 3; American Crow, 850; Starling, 3; Meadowlark, 1; Goldfinch, 5; Pine Siskin, 7; White-throated Sparrow, 2; Tree Sparrow, 69; Slate-colored Junco, 40; Song Sparrow, 5; Cardinal, 10; Carolina Wren, 3 (singing); Brown Creeper, 7; Tufted Titmouse, 9; Golden-crowned Kinglet, 16; Bluebird, 17. Total, 20 species, 1,057 individuals.—ARTHUR FARQUHAR, HERMAN KLINEDINST, CHARLES S. WEISER.

Altoona, Pa. (Lakemount Park, Canan's Ridge and Ant Hills).—Dec. 25; 10.30 A.M. to 12.30 P.M., 2 to 4.30 P.M. Clear; 4 in. snow; wind south, light; temp. 30° at start, 28° at return. Six miles on foot. Observers worked separately. Sharp-shinned Hawk, 1; Sparrow Hawk, 1; Downy Woodpecker, 5; Crow, 1; Meadowlark, 2; Goldfinch, 1; Tree Sparrow, 55; Slate-colored Junco, 4; Song Sparrow, 1; Cardinal, 4; Brown Creeper, 1; White-breasted Nuthatch, 2; Chickadee, 3; Robin, 1. Total, 14 species, 82 individuals.—HARRY ARTHUR MCGRAW, HARRY P. HAYS.

Chambersburg, Pa.—Dec. 26; 9.45 A.M. to 12.30 P.M. Clear; light snow; wind west, light; temp. 24° at start, 27° at return. Observers together. Kingfisher, 1; Downy Woodpecker, 4; Crow, 30; Starling, 5; Purple Finch, 4; Goldfinch, 1; Tree Sparrow, 50; Junco, 40; Song Sparrow, 3; Cardinal, 8; Winter Wren, 1; Brown Creeper, 1; White-breasted Nuthatch, 1. Total, 13 species, 149 individuals. Although only 30 Crows were recorded, great flocks fly across the valley in the morning and return at sunset.—BENJAMIN and ROBERT WARFIELD.

Sewickley, Pa.—Dec. 25; 9 A.M. to 1 P.M. Cloudy; 6 in. snow; wind north, cold, increasing; temp. 20°. About 7 miles covered thoroughly. Observers together. Ruffed Grouse, 1; Red-tailed Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 13; Blue Jay, 3; American Crow, 2; Goldfinch, 3; Tree Sparrow, 113; Junco, 164; Song Sparrow, 16; Cardinal, 21; Brown Creeper, 1; White-breasted Nuthatch, 12; Tufted Titmouse, 4; Chickadee, 22; Golden-crowned Kinglet, 2; Robin, 3. Total, 17 species, 382 individuals.—BAYARD H. CHRISTY, FRANK A. HEGNER.

Springs, Pa.—Dec. 23; 8.30 A.M. to 2.30 P.M. Clear; 5 in. snow; no wind; temp. 22° at start, 50° at noon. Five miles walked. Ruffed Grouse, 1; Great Horned Owl, 1 (5 A.M.); Hairy Woodpecker, 2; Downy Woodpecker, 3; Pileated Woodpecker, 1; Blue Jay, 1; American Crow, 5; Slate-colored Junco, 4; Song Sparrow, 1; White-breasted Nuthatch, 2; Black-capped Chickadee, 4. Total, 11 species, 25 individuals.—ANSEL B. MILLER.

Crafton, Pa. (Moon Run, Thornberg and vicinity).—Dec. 25; 10 A.M. to 4 P.M. Cloudy; 4 in. snow; wind southwest, light; temp. 28°. Eight miles on foot. Sparrow Hawk, 1; Downy Woodpecker, 3; Tree Sparrow, 16; Junco, 12; Song Sparrow, 12; Cardinal, 16; White-breasted Nuthatch, 1; Tufted Titmouse, 18; Black-capped Chickadee, 14. Total, 9 species, 93 individuals.—L. F. SAVAGE.

Emsworth, Pa.—Dec. 25; 8.30 to 10 A.M., 10.30 A.M. to 3 P.M. Cloudy; 4 in. snow; wind west, light; temp. 20°. Eight miles on foot. Screech Owl (now spending seventh winter in bird box), 1; Hairy Woodpecker, 4; Downy Woodpecker, 13; Blue Jay, 2; Crow, 3; Goldfinch, 3; Tree Sparrow, 61; Junco, 25; Song Sparrow, 18; Cardinal, 7;

White-breasted Nuthatch, 10; Tufted Titmouse, 4; Black-capped Chickadee, 4; Bluebird (heard), 1. Total, 14 species, 156 individuals.—Thos. L. McConnell.

Telford, Pa.—Dec. 28; 9 A.M. to 3 P.M. From 1 to 3 in. snow; wind west, light; temp. 30° at start and 38° at return. Cooper's Hawk, 1; Red-shouldered Hawk, 1; Sparrow Hawk, 1; Kingfisher, 1; Downy Woodpecker, 7; Horned Lark, 5; Crow, 46; Starling, 26; Meadowlark, 9; Purple Finch, 2; Goldfinch, 7; Tree Sparrow, 72; Slate-colored Junco, 165; Song Sparrow, 18; Cardinal, 2; White-breasted Nuthatch, 4; Golden-crowned Kinglet, 1. Total, 17 species, 368 individuals. On Dec. 22 a live Northern Phalarope was brought to me for proper identification. It is still being cared for by the farmer till the streams open. Dec. 25, 1 Flicker, and 1 Sharp-shinned Hawk were seen.—Claude A. Butterwick.

Greensboro, Md.—Dec. 26. Fair; ground almost covered with snow; temp. 25° to 35°. Black Duck, 2; Bob-white, 20; Mourning Dove, 1; Turkey Vulture, 15; Sharp-shinned Hawk, 1; Red-shouldered Hawk, 1; Barred Owl, 1; Kingfisher, 1; Hairy Woodpecker, 2; Downy Woodpecker, 5; Red-bellied Woodpecker, 1; Flicker, 7; Horned Lark, 5; Blue Jay, 10; Crow, 4; Starling, 4; Meadowlark, 26; Rusty Blackbird, 3; Purple Finch, 3; Red Crossbill, 10; Goldfinch, 25; Pine Siskin, 1; White-throated Sparrow, 35; Tree Sparrow, 7; Field Sparrow, 3; Junco, 55; Song Sparrow, 28; Swamp Sparrow, 3; Towhee, 1; Cardinal, 30; Myrtle Warbler, 25; Carolina Wren, 1; Red-breasted Nuthatch, 1; Tufted Titmouse, 4; Carolina Chickadee, 7; Ruby-crowned Kinglet, 1; Hermit Thrush, 1; Robin, 1. Total, 38 species, 352 individuals.—Otto McCreary.

Chesapeake Beach, Md.—Dec. 23; 10 A.M. to 4 P.M. Clear; ground covered by about 2 in. snow; wind northwest; temp. 35°. Horned Grebe, 3; Herring Gull, 4; Ring-billed Gull, 2; American Merganser, 2; Golden-eye, 3; Bufflehead, 13; White-winged Scoter, 86; Surf Scoter, 6; Bob-white, 9; Turkey Vulture, 11; Marsh Hawk, 1; Cooper's Hawk, 1; Sparrow Hawk, 1; Belted Kingfisher, 1; Downy Woodpecker, 2; Red-bellied Woodpecker, 1; Blue Jay, 7; Crow, 87; Starling, 122; Red-winged Blackbird, 2; Meadowlark, 22; Goldfinch, 7; White-throated Sparrow, 10; Tree Sparrow, 3; Field Sparrow, 3; Slate-colored Junco, 4; Song Sparrow, 8; Towhee, 1; Cardinal, 3; Mockingbird, 3; Long-billed Marsh Wren, 1; Brown Creeper, 2; Tufted Titmouse, 3; Carolina Chickadee, 2; Golden-crowned Kinglet, 2. Total, 35 species, 438 individuals.—Joseph Kittredge, Jr.

Parkersburg, W. Va.—Dec. 26; 1.30 to 4.30 P.M. Cloudy; 3 in. snow in the woods; wind southwest, light; temp. 40°. Four and one-half miles on foot. Observers together. Hairy Woodpecker, 1; Red-headed Woodpecker, 4; Flicker, 8; Crow, 45; Meadowlark, 15; Bronzed Grackle, 1; Song Sparrow, 8; Cardinal, 7; Carolina Wren, 1; Tufted Titmouse, 1; Chickadee, 11. Total, 11 species, 102 individuals.—Bertha E. White, Ada Stephenson, Walter Donaghho.

Charleston, W. Va. (South Side hills and ravines, same territory as covered in the last four years).—Dec. 28; 8.30 A.M. to 1.30 P.M. Heavy clouds, spitting snow and rain throughout the trip; very light south wind; temp. 27° at start, 30° at return. Six or 7 miles on foot. Observers together. Blue Jay, 2; Bluebird, 19; Junco, 120; Carolina Wren, 24; Towhee, 99; White-throated Sparrow, 12; Red-headed Woodpecker, 18 (these birds are on the increase winter and summer. Ten years ago we had none); Sparrow Hawk, 2; Cooper's Hawk, 1; Goldfinch, 21; Downy Woodpecker, 4; Hairy Woodpecker, 2; Cardinal, 66; Song Sparrow, 22; Field Sparrow, 14; Tree Sparrow, 1; Robin, 1; Tufted Titmouse, 28; White-breasted Nuthatch, 4; Black-capped Chickadee, 11; Crow, 9; Flicker, 5; Yellow-bellied Sapsucker, 1; Bob-white, 32 (four covies). Total, 24 species, 527 individuals.—Elis Crawford, Mary Belle Johnston, I. H. Johnston, Joe Lloyd.

Lewisburg, W. Va.—Dec. 26; 9 A.M. to 5 P.M. Cloudy; snow in spots; no wind; temp. 15° at start, 38° at return. Six miles on foot. Turkey Vulture, 11; Red-tailed Hawk, 1; Sparrow Hawk, 1; Screech Owl, 1; Hairy Woodpecker, 2; Downy Wood-

pecker, 6; Yellow-bellied Sapsucker, 1; Pileated Woodpecker, 2; Red-bellied Woodpecker, 6; Northern Flicker, 1; Prairie Horned Lark, 1; Blue Jay, 10; Crow, 25; Starling, 1 (first time seen here in winter); Goldfinch, 22; Tree Sparrow, 270; Slate-colored Junco, 305; Song Sparrow, 3; Cardinal, 15; Migrant Shrike, 1; Brown Creeper, 1; White-breasted Nuthatch, 19; Tufted Titmouse, 13; Black-capped Chickadee, 2; Bluebird, 14. Total, 25 species, 734 individuals. On Dec. 25 I was very much surprised to flush a Wilson Snipe from a bit of swampy ground near my home. Also on Dec. 27, 1 Pine Siskin, another unusual bird here, was seen.—CHAS. O. HANDLEY.

White Sulphur Springs, W. Va.—Dec. 25; 10 to 11.45 A.M., 2 to 5 P.M. Clear; ground mostly snow-covered; wind west, light; temp. 20°. Observers together. Sparrow Hawk, 1; Kingfisher, 2; Downy Woodpecker, 6; Blue Jay, 4; American Crow, 5; Tree Sparrow, 30; Junco, 100; Song Sparrow, 4; Cardinal, 1 pair; Winter Wren, 1; White-breasted Nuthatch, 8; Tufted Titmouse, 20; Bluebird, 3. Total, 13 species, 186 individuals.—MR. and MRS. STANLEY V. LADOW.

Washington, D. C. (Mt. Vernon, Dogue Creek, Gum Springs and Warwick, Va.).—Dec. 27; 9 A.M. to 5 P.M. Overcast, densely hazy, except last two hours; ground partly covered by snow; no wind; temp. 33° at start, 41° at finish. Six miles on foot. Observers together. Red-breasted Merganser, 1; Hooded Merganser, 2; Black Duck, 3; Gadwell, 1; Canvasback, 32; Scaup, 3,000; Golden-eye, 2,000; Bob-white, 21; Turkey Vulture, 5; Marsh Hawk, 4; Red-tailed Hawk, 1; Red-shouldered Hawk, 1; Hairy Woodpecker, 3; Downy Woodpecker, 10; Yellow-bellied Sapsucker, 1; Red-bellied Woodpecker, 2; Flicker, 11; Blue Jay, 19; Crow, 26; Starling, 14; Meadowlark, 7; Purple Finch, 8; Red Crossbill, 2; Goldfinch, 11; White-throated Sparrow, 3; Tree Sparrow, 16; Field Sparrow, 4; Junco, 150; Song Sparrow, 12; Cardinal, 13; Loggerhead Shrike, 4; Myrtle Warbler, 6; Mockingbird, 4; Carolina Wren, 1; Winter Wren, 1; Brown Creeper, 1; Tufted Titmouse, 26; Carolina Chickadee, 10; Golden-crowned Kinglet, 1; Ruby-crowned Kinglet, 2; Robin, 1; Bluebird, 6. Total 42 species, about 5,450 individuals. The Herring Gull, Fish Crow and White-breasted Nuthatch are common winter residents not seen on Dec. 27, all of which were seen next day.—ALEX. WETMORE, E. A. PREBLE, W. L. MCATEE.

Pulaski, Va.—Dec. 25; 12.50 to 5 P.M. Clear; wind west, light; temp. 36° at start, 42° at return. Seven miles on foot. Woodcock, 1; Killdeer, 12; Turkey Vulture, 80; Black Vulture, 1; Sparrow Hawk, 1; Great Horned Owl, 1; Downy Woodpecker, 3; Flicker, 2; Horned Lark, 50; American Crow, 4; Meadow Lark, 12; American Goldfinch, 8; Slate-colored Junco, 58; Song Sparrow, 11; Fox Sparrow, 1; Cardinal, 2; Mockingbird, 1; White-breasted Nuthatch, 4; Tufted Titmouse, 7; Robin, 1; Bluebird, 6. Total, 21 species, 276 individuals.—O. C. BREWER.

Spartanburg, S. C. (Converse Heights to Country Club).—Dec. 26; 9 A.M. to 3 P.M. Clear; ground bare; wind south, fresh; temp. 34° at start, 46° at return. Five miles on foot. Bob-white, 3; Mourning Dove, 7; Turkey Vulture, 8; Sparrow Hawk, 1; Southern Downy Woodpecker, 3; Red-headed Woodpecker, 2; Flicker, 5; Prairie Horned Lark, 1 (in flight); Blue Jay, 16; American Crow, 6; Red-winged Blackbird, 27 (two flocks); Meadowlark, 11; Purple Finch, 15; American Goldfinch, 15; Vesper Sparrow, 3; Savannah Sparrow, 3; White-throated Sparrow, 15; Field Sparrow, 13; Slate-colored Junco, 55; Song Sparrow, 17; Fox Sparrow, 1; Towhee, 7; Cardinal, 7; Cedar Waxwing, 6; Myrtle Warbler, 3; Mockingbird, 1; Carolina Wren, 5; Brown Creeper, 2; Tufted Titmouse, 9; Carolina Chickadee, 5; Golden-crowned Kinglet, 9; Hermit Thrush, 2; Robin, 70; Bluebird, 13. Total, 34 species, about 345 individuals.—GABRIEL CANNON, GEORGE L. SNOWDEN, LEWIS BAILEY.

St. Petersburg, Fla.—Dec. 24; 7 to 8 A.M., St. Petersburg; 10 A.M. to 12.45 P.M. along shore of Boca Ceiga Bay; 3 to 4 P.M., St. Petersburg. Slightly cloudy; wind southwest to northwest, light; temp. 65° at start, 73° at return. Three miles on foot. Observers

together. Loon, 7; Red-throated Loon, 5; Herring Gull, 40; Laughing Gull, 2; Bonaparte's Gull, 1; Gull-billed Tern, 209; Common Tern, 2 [We believe the Terns have been wrongly identified; the Royal Tern should be the abundant species here.—Ed.]; Black Skimmer, 170; Cormorant, 9; Brown Pelican, 235; Red-breasted Merganser, 8; Greater and Lesser Scaup Duck, 87; Bufflehead Duck, 1; Great White Heron, 1; Great Blue Heron, 2; Ward's Heron, 6; Louisiana Heron, 25; Little Blue Heron, 15; Black-crowned Night Heron, 1; Limpkin, 1; Dowitcher, 3; Least Sandpiper, 5; Yellowleg, 1; Willet, 107; Spotted Sandpiper, 1; Killdeer, 9; Ground Dove, 1; Black Vulture, 25; Bald Eagle, 12; Florida Sparrow Hawk, 1; Kingfisher, 4; Red-headed Woodpecker, 1; Flicker, 1; Blue Jay, 9; Florida Crow, 79; Meadowlark, 15; Florida Grackle, 47; Boat-tailed Grackle, 6; Cardinal, 1; Loggerhead Shrike, 9; Myrtle Warbler, 6; Palm and Yellow Palm Warblers, 20; Mockingbird, 16. Total, 45 species, 1,206 individuals. We tried more for different species than for great numbers, so did not consider rafts of ducks on Tampa Bay, nor did we reckon hundreds of shore birds, seen but not identified along Boca Ceiga Bay.—Clarence D., Ernest H., and Lucy E. Farrar.

Detroit, Mich. (Belle Isle, Grosse Isle and River front).—Dec. 26; 8 a.m. to 4 p.m. Cloudy; trace of snow; wind southwest, light; temp. 29° to 31°. Herring Gull, 51; Ring-billed Gull, 10; American Merganser, 7; Red-breasted Merganser, 5; Lesser Scaup, 7; Golden-eye, 4; Bob-white, 1; Hairy Woodpecker, 3; Downy Woodpecker, 10; Red-headed Woodpecker, 19; Crow, 12; Blue Jay, 8; Pine Grosbeak, 1; Tree Sparrow, 10; Slate-colored Junco, 3; Cardinal, 2; Chickadee, 12; Brown Creeper, 4; White-breasted Nuthatch, 23. Total, 19 species, 192 individuals. About 40 Red-headed Woodpeckers are wintering on Belle Isle.—Etta S. Wilson.

Detroit, Mich.—Dec. 25; 8 to 11.30 a.m., eastern suburbs, creek bottom, farm land, woodland and coppice—8 miles on foot; 2.30 to 4.40 p.m., Belle Isle Park. Partly cloudy; light snow; wind southwest, light; temp. 26°. Herring Gull, 27; Ducks (Scaup sp.), 11; Sparrow Hawk, 1; Hairy Woodpecker, 5; Downy Woodpecker, 2; Red-headed Woodpecker, 1; Yellow-bellied Sapsucker, 1; Blue Jay, 2; Crow, 21; Redpoll, 11; Vesper Sparrow, 6; Junco, 12; Song Sparrow, 4; Brown Creeper, 1; White-breasted Nuthatch, 14; Chickadee, 18. Total, 16 species, 137 individuals.—Ralph Beebe.

Ann Arbor, Mich.—Dec. 26; 8.30 a.m. to 12.30 p.m. Cloudy; 1 in. snow; wind west, light; temp. 35° to 38°. Observers together. Red-tailed Hawk, 1; Hairy Woodpecker, 2; Downy Woodpecker, 9; Blue Jay, 17; Purple Finch, 2; Tree Sparrow, 207; Junco, 34; Chewink, 1; Cardinal, 4; White-breasted Nuthatch, 4; Chickadee, 16. Total, 11 species, about 297 individuals.—Josselyn and Claude Van Tyne.

Camden, Mich.—Dec. 26; 10.30 a.m. to 12 m., 2.45 to 5 p.m. Cloudy; ground partly covered with snow; wind west, strong; temp. 30° to 38°. Seven miles on foot, wooded hills and open fields, about 2 miles of river banks. Observers together. Red-tailed Hawk, 1; Barred Owl, 1; Hairy Woodpecker, 2; Downy Woodpecker, 5; Flicker, 1; Blue Jay, 4; Tree Sparrow, 75; Junco, 16; Song Sparrow, 7; Cardinal, 5 males, 3 females; Catbird, 1 (observed with a three-power glass at 20 feet); White-breasted Nuthatch, 6; Black-capped Chickadee, 4. Total, 13 species, 131 individuals.—Ray E., Willis C., Walter J. Reader.

Wausau, Wis.—Dec. 24; 9 a.m. to 1 p.m. Clear; 14 in. snow; calm; temp. 10° at start, 30° at return. Seven miles on foot. Observers together. Northern Downy Woodpecker, 1; Blue Jay, 2; Evening Grosbeak, 25; Snow Bunting, 20; Cedar Waxwing, 13; Chickadee, 6. Total, 6 species, about 67 individuals.—H. W. Schaars, Clifford Streck, Wesley Guenther.

Madison, Wis. (and vicinity).—Dec. 26; 9 a.m. to 3 p.m. Clear; 5 in. snow; wind northwest, 12 miles per hour; temp. 31° to 37°. Twelve miles on foot. Observers together. Hairy Woodpecker, 3; Downy Woodpecker, 3; Blue Jay, 17; Crow, 6; Red Crossbill, 1; White-winged Crossbill, 40; Redpoll, 2; Goldfinch, 5; Tree Sparrow, 20; Slate-colored

Junco, 35; Cardinal, 1; Brown Creeper, 2; White-breasted Nuthatch, 7; Chickadee, 46; Golden-crowned Kinglet, 5. Total, 15 species, about 195 individuals.—CLARA and WARNER TAYLOR.

Madison, Wis. (woods, fields and marshes adjoining Lake Wingara).—Dec. 23; 8.15 A.M. to 4.15 P.M. Cloudy; hoar-frost on trees, 10 in. snow; thick ice on lake; wind, west, light; temp. 27° to 30°. Ten miles on foot. Bob-white, 15; Barred Owl, 2; Hairy Woodpecker, 4; Downy Woodpecker, 4; Red-bellied Woodpecker, 1; Blue Jay, 28; Crow, 4; Goldfinch, 21; Tree Sparrow, 125; Bohemian Waxwing, 19; Brown Creeper, 2; White-breasted Nuthatch, 10; Chickadee, 37. Total, 13 species, 272 individuals.—S. PAUL JONES.

Hartland, Wis.—Dec. 22; 8.30 A.M. to 3 P.M. Cloudy; 10 in. snow; wind southwest, light; temp. 24° at start, 36° at return. Seven miles on foot along tree and shrub bordered country roads. Hairy Woodpecker, 2; Downy Woodpecker, 1; Blue Jay, 15; Crow, 6; Tree Sparrow, 3; Northern Shrike, 1; Brown Creeper, 1; White-breasted Nuthatch, 5; Chickadee, 18. Total, 9 species, 52 individuals.—SUSIE L. SIMONS.

Lauderdale Lakes, Wis. (near Elkhorn).—Dec. 26; 9.40 to 11.45 A.M., 1.45 to 3.30 P.M. Clear; 1 ft. snow; wind west, brisk; temp. 33° at start, 36° at finish. Observers together. Blue Jay, 1; Crow, 32; Red-winged Blackbird, 3; Redpoll, 29; Slate-colored Junco, 1; White-breasted Nuthatch, 3; Chickadee, 1. Total, 7 species, 69 individuals.—LULA DUNBAR, ROBERT G. DUNBAR, JR.

Minneapolis, Minn. (Interlachen to Minnehaha Falls).—Dec. 26; 9.30 A.M. to 4.30 P.M. Clear; 8 in. snow; wind west, 28 miles per hour; temp. 30° to 34°. Eight miles on foot. Observers together. Golden-eye, 1 (in open water on Mississippi); Downy Woodpecker, 4; Red-bellied Woodpecker, 1 (adult male); Blue Jay, 11; Tree Sparrow, 3; White-breasted Nuthatch, 15; Black-capped Chickadee, 11. Total, 7 species, 46 individuals. The Red-bellied Woodpecker, an exceptional record for this locality, was studied at 20 feet with binoculars.—BURTON THAYER, CHARLES PHILLIPS.

Minneapolis, Minn.—Dec. 27; 8 A.M. to 12 M. Cloudy; 7 in. snow; temp. 25°. About 6 miles on foot along the east bank of the Mississippi River. Hairy Woodpecker, 3; Downy Woodpecker, 4; Blue Jay, 8; Purple Finch, 6; Redpoll, 18; Tree Sparrow, 4; Slate-colored Junco, 15; Brown Creeper, 1; White-breasted Nuthatch, 10; Black-capped Chickadee, 7; Robin, 1. Total, 11 species, 77 individuals. Robins are very rare here in winter; this bird has been here all winter, feeding mostly on berries. Large flocks of Bohemian Waxwings have been in this vicinity for about a month, but none were seen on this date.—LAWRENCE ZELENY.

Youngstown, Ohio (Mill Creek Park, Valley above park and country below Poland).—Dec. 25; 7.30 A.M. to 4.30 P.M. Partly cloudy; 6 in. snow; wind west, light; temp. 17° at start, 22° at return. About 15 miles on foot. Observers separate some of the time. Bob-white, 63 (4 coveys); Ruffed Grouse, 1; Marsh Hawk, 1; Red-shouldered Hawk, 1; Rough-legged Hawk, 5; Sparrow Hawk, 2; Hairy Woodpecker, 8; Downy Woodpecker, 31; Red-headed Woodpecker, 2; Red-bellied Woodpecker, 3; Flicker, 1; Blue Jay, 32; Crow, 1; Meadowlark, 7; Purple Finch, 1; Red Crossbill, 20; White-winged Crossbill, 11; Redpoll, 12; Goldfinch, 3; Pine Siskin, at least 500; Tree Sparrow, 308; Slate-colored Junco, 11; Song Sparrow, 10; Cardinal, 20; Brown Creeper, 1; White-breasted Nuthatch, 55; Red-breasted Nuthatch, 6; Tufted Titmouse, 63; Chickadee, 89; Golden-crowned Kinglet, 7. Total, 30 species, about 1,295 individuals. The Rough-legged Hawks, Redpolls, Crossbills and Pine Siskins are uncommon winter visitors.—GEORGE L. FORDYCE, C. A. LEEDY, WILLIS H. WARNER, EVAN C. DRESSEL, H. W. WEISGERBER.

Painesville, Ohio.—Dec. 25; out 4 hours. Fair, cloudy; wind west, fresh; temp. 24° to 28°. Eight-mile walk. Merganser, 3; Golden-eye, 5; Sparrow Hawk, 1; Barred Owl, 2; Kingfisher, 1; Northern Hairy Woodpecker, 1; Downy Woodpecker, 4; Red-headed Woodpecker, 1; Flicker, 1; Blue Jay, 6; Bronzed Grackle, 2; Tree Sparrow, 5

Song Sparrow, 2; Cardinal, 7; Brown Creeper, 1; White-breasted Nuthatch, 5; Tufted Titmouse, 4; Chickadee, 5. Total, 18 species, 56 individuals. Hooded Merganser, Great Horned Owl, Crows, Goldfinch, and Juncos also seen within the Census time-limit.—E. A. Doolittle.

Oberlin, Ohio.—Dec. 27; 9.30 A.M. to 1.30 P.M. Cloudy; ground covered with snow; wind southwest, sharp; temp. 32° at start, 31° at return. Eight miles on foot, 3 on bicycle. Downy Woodpecker, 8; Flicker, 6; Blue Jay, 12; Crow, 1; Tree Sparrow, 6; Cardinal, 6; Brown Creeper, 1; White-breasted Nuthatch, 4; Chickadee, 10. Total, 9 species, 53 individuals.—Helen M. Rice.

Akron, Ohio (Northwest, 6 miles and return).—Dec. 21; 9 A.M. to 2.30 P.M. Foggy, clear; wind southwest, very slight; temp. 11° rising to 38°. Downy Woodpecker, 5; Blue Jay, 2; Tree Sparrow, 25; Song Sparrow, 2; Junco, 10; Cardinal, 3; Brown Creeper, 1; White-breasted Nuthatch, 4; Chickadee, 7. Total, 9 species, 59 individuals.—Paul A. Wells.

Huron, Ohio.—Dec. 28; 9 A.M. to 5 P.M. Partly cloudy; ground nearly bare; wind north, fresh; temp. 22° at start. Observers together in afternoon, H. G. Morse alone in forenoon. Merganser, 58; Golden-eye, 12; Bob-white, 8; Bald Eagle, 5; Sparrow Hawk, 1; Downy Woodpecker, 7; Red-headed Woodpecker, 13; Northern Flicker, 2; Blue Jay, 8; Crow, 2; Tree Sparrow, 60; Juncos, 1; Song Sparrow, 5; Cardinal, 8; Tufted Titmouse, 2; Chickadee, 4. Total, 16 species, 196 individuals.—Mr. and Mrs. H. G. Morse, Miss W. E. Seonhiser.

Canton, Ohio.—Dec. 22; 9 A.M. to 5 P.M. Cloudy in the morning; ground covered with snow; wind, light; temp. 25° to 40°. Twelve miles on foot. Observers together. Bob-white, 12 (one covey); Belted Kingfisher, 1; Hairy Woodpecker, 2; Downy Woodpecker, 10; Blue Jay, 2; Goldfinch, 4; Tree Sparrow, 100; Song Sparrow, 25; Cardinal, 12; Cedar Waxwing, 13; White-breasted Nuthatch, 6; Chickadee, 8; Robin, 1. Total, 13 species, 196 individuals.—May S. Danner, Mary King.

Canton, Ohio.—Dec. 25; 7.30 A.M. to 4 P.M. Cloudy till 12.30 P.M., clear thereafter; ground slightly snow-covered; wind southwest, light; temp. 20° at start, 24° at return. Ten miles on foot. Bob-white, 20 (two coveys); Red-shouldered Hawk, 2; Belted Kingfisher, 2; Hairy Woodpecker, 1; Downy Woodpecker, 4; Blue Jay, 2; Crow, 1; Goldfinch, 1; Tree Sparrow, 170; Slate-colored Junco, 30; Song Sparrow, 20; Cardinal, 23; Brown Creeper, 3; White-breasted Nuthatch, 7; Tufted Titmouse, 2; Black-capped Chickadee, 2. Total, 16 species, 290 individuals.—Edward D. Kimes.

Cadiz, Ohio.—Dec. 25; 9.30 A.M. to 1.30 P.M. Cloudy to part cloudy; 4 in. snow; wind west, light; temp. 18° at start, 24° on return. Eight miles in the woods and fields south of Cadiz. Observers together. Bob-white, 6, and tracks; Cooper's Hawk (?) 1; Red-tailed Hawk, 1; Sparrow Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 4; Red-bellied Woodpecker, 4; Northern Flicker, 6; Blue Jay, 3; Crow, 5; Meadowlark, 8; Tree Sparrow, 90; Junco, 45; Song Sparrow, 16; Cardinal, 3; White-breasted Nuthatch, 3; Tufted Titmouse, 6; Chickadee, 5. Total, 18 species, 208 individuals.—H. B. McConnell.

Hamilton, Ohio.—Dec. 25; 9.30 A.M. to 1.30 P.M. Clear; 3 in. snow; wind southeast, light; temp. 12° at start, 30° at return. Nine miles on foot through fields and swamps along river. Observers together. Sparrow Hawk, 4; Kingfisher, 1; Hairy Woodpecker, 4; Downy Woodpecker, 5; Yellow-bellied Sapsucker, 3; American Crow, 41; Tree Sparrow, 98; Junco, 20; Song Sparrow, 16; Swamp Sparrow, 121; Towhee, 1; Cardinal, 18; Tufted Titmouse, 16; Chickadee, 91. Total, 14 species, 440 individuals.—Frank and William Harbaum.

Xenia, Ohio (Beaver Creek to Alpha, Little Miami River to Trebeins).—Dec. 25; 8 A.M. to 1.20 P.M., 3 to 4.30 P.M. Clear; 1 in. snow; wind northwest to southeast, light; temp. 4° at start, 23° at return. Seven miles on foot. Mallard, 20; Bob-white, 8; Ring-necked Pheasant, 6; Mourning Dove, 16; Belted Kingfisher, 2; Hairy Woodpecker, 2;

Downy Woodpecker, 7; Red-bellied Woodpecker, 3; Flicker, 1; Blue Jay, 6; Crow, 20; Goldfinch, 1; Tree Sparrow, 68; Song Sparrow, 29; Cardinal, 12; White-breasted Nuthatch, 2; Tufted Titmouse, 16; Chickadee, 18; Golden-crowned Kinglet, 1; Robin, 2. Total, 20 species, 240 individuals.—HELEN ANKENEY.

Fort Wayne, Ind.—Dec. 21; 7.30 A.M. to 1 P.M. Fair; wind northeast, light; temp. 18° at start, 30° on return. Ten miles of river-bank and vicinity. Bob-white, 21; Mourning Dove, 1; Hairy Woodpecker, 4; Downy Woodpecker, 17; Flicker, 2; Blue Jay, 29; American Crow, 24; Goldfinch, 4; Pine Siskin, 2; Tree Sparrow, 379; Slate-colored Junco, 63; Song Sparrow, 14; Cardinal, 26; Brown Creeper, 2; White-breasted Nuthatch, 18; Tufted Titmouse, 6; Black-capped Chickadee, 39. Total, 17 species, 651 individuals. On Nov. 2 Wm. Sihler observed 15 White-winged Crossbills.—CHAS. A. STOCKBRIDGE, A. A. RINGWALT, A. K. MEHL, HENRY W. SEPPER, WM. SIHLER.

Gary, Ind.—Dec. 23; 7 A.M. to 3.30 P.M. Cloudy; 3 in. snow on ground, white rime frost covering all vegetation; freezing temperatures morning and evening, slightly warmer at mid-day. Herring Gull, 33; American Merganser, 2; Hairy Woodpecker, 2; Downy Woodpecker, 1; Blue Jay, 2; Crow, 10; Tree Sparrow, 169; Junco, 26; Black-capped Chickadee, 17; Robin, 1. Total, 10 species, 263 individuals.—W. A. SQUIRES.

Indianapolis, Ind. (to territory about 10 miles from city).—Dec. 23; 10 A.M. to 4 P.M. Dull sky; light snow on ground; no wind; temp. 28°. Covering 15 miles of 'hiking' on estate where birds have been encouraged, and observation of a winter feeding station. Observers together. Sparrow Hawk, 1; Hairy Woodpecker, 2; Downy Woodpecker, 4; Red-headed Woodpecker, 2; Blue Jay, 1; Crow, 59; Tree Sparrow, 6; Slate-colored Junco, 33; Song Sparrow, 3; Cardinal, 8; Tufted Titmouse, 5; Black-capped Chickadee, 4. Total, 12 species, 128 individuals.—MISS ELIZABETH DOWNHOUR, MRS. CECILIA DENBIG, MISS CHARLOTTE BACHMAN, MISS MARGARET DRINKUT, W. T. DRINKUT, S. E. PERKINS III.

Roachdale, Ind.—Dec. 25; 9 A.M. to 2 P.M. Clear; ground bare; wind southwest, light; temp. 18° to 28°. Eight miles on foot. Hairy Woodpecker, 2; Downy Woodpecker, 8; Red-bellied Woodpecker, 4; Flicker, 3; Prairie Horned Lark, 9; Blue Jay, 4; American Crow, 40; Goldfinch, 1; Tree Sparrow, 36; Song Sparrow, 7; Cardinal, 3; White-breasted Nuthatch, 5; Tufted Titmouse, 10; Black-capped Chickadee, 18. Total, 14 species, 150 individuals.—WARD J. RICE.

Chicago, Ill.—Dec. 24; 7.30 A.M. to 2.30 P.M. Cleared up about noon; about an inch of snow; wind, cold. Along the Desplaines River from Oak Park to Park Ridge, then west to Niles. Alone. Herring Gull, 1; Ring-billed Gull, 4; Mourning Dove, 4; Hairy Woodpecker, 1; Downy Woodpecker, 10; Red-bellied Woodpecker, 2; Blue Jay, 6; American Crow, 47; Evening Grosbeak, 2; Tree Sparrow, 6; Slate-colored Junco, 1; Cardinal, 19; White-breasted Nuthatch, 1; Black-capped Chickadee, 3. Total, 14 species, 107 individuals. Dec. 27, Belted Kingfisher, 2.—GARDNER BATES.

Waukegan, Ill.—Dec. 26; 9.45 A.M. to 4.15 P.M. Clear; about 6 in. snow; wind southwest, strong; temp. 36° at start, 37° at return. About 14 miles on foot. Observers together. Herring Gull, 200+; American Merganser, 25; Red-breasted Merganser, 3; American Golden-eye, 12; Old Squaw, 2; Canada Goose, 106; Hairy Woodpecker, 1; Downy Woodpecker, 3; Blue Jay, 8; Crow, 15; Red Crossbill, 2; Tree Sparrow, 32 Slate-colored Junco, 7; Bohemian Waxwing, 1; Brown Creeper, 1; Chickadee, 2. Total, 16 species, about 420 individuals. The Bohemian Waxwing was identified by its large size and the white markings on the wings.—PARKER BLAIR, STEPHEN S. GREGORY, JR.

Zuma Township, Rock Island Co., Ill.—Dec. 28; 8.30 to 10.30 A.M., 12.05 to 3.15 P.M. Cloudy in forenoon, clear in afternoon; 2 in. snow; wind north, light; temp. 20° at start, 25° at return. Bob-white, 35 (two covies); Screech Owl, 1; Great Horned Owl, 2; Hairy Woodpecker, 4; Downy Woodpecker, 15; Red-headed Woodpecker, 2; Red-bellied Woodpecker, 5; Northern Flicker, 3; Blue Jay, 10; American Crow, 14; Goldfinch, 12;

Tree Sparrow, 15; Slate-colored Junco, 25; Cardinal, 3; Brown Creeper, 3; White-breasted Nuthatch, 5; Tufted Titmouse, 1; Black-capped Chickadee, 23. Total, 18 species, about 178 individuals. Heard a Lapland Longspur call, while flying over, Dec. 27.—J. J. Schafer.

Rantoul, Ill.—Dec. 24; 8 A.M. to 4 P.M. Light clouds; ground bare; wind north, brisk; temp. 22°. Four miles on foot through woods, by vehicle to and from woods. Observers together. Cooper's Hawk, 1; Red-tailed Hawk, 5; Red-shouldered Hawk, 2; Broad-winged Hawk, 1; American Rough-legged Hawk, 20; Barred Owl, 1; Screech Owl, 1; Hairy Woodpecker, 18; Downy Woodpecker, 56; Flicker, 3; Yellow-bellied Sapsucker, 1; Prairie Horned Lark, 15; Blue Jay, 9; American Crow, about 300; American Goldfinch, 16; Vesper Sparrow, 1; White-throated Sparrow, 2; Tree Sparrow, about 600; Junco, about 300; Song Sparrow, 7; Swamp Sparrow, 1; Cardinal, 37; Brown Creeper, 20; White-breasted Nuthatch, 12; Red-breasted Nuthatch, 4; Tufted Titmouse, about 500; Chickadee, 3; Golden-crowned Kinglet, 1. Total, 28 species, about 1,900 individuals. Species wintering in this vicinity but not seen on this date: Bob-white, Prairie Hen, Lapland Longspur, and Snow Bunting, seen at frequent intervals. Wilson Snipe, Dec. 23; Mourning Dove, Dec. 18; Sparrow Hawk and Pine Siskin, Dec. 21; Brown Thrasher and Rusty Blackbird, Dec. 10; Robin, Dec. 19. These dates are the latest observations of the birds named, although they have been seen frequently before.—Sidney, George, and Eddie Ekblaw.

Albion, Ill.—Dec. 26; 1.30 to 5.30 P.M. Cloudy; ground bare; wind west, light; temp. 44° to 36°. Nine miles on foot. Bob-white, 13; Dove, 5; Barred Owl, 1; Hairy Woodpecker, 3; Downy Woodpecker, 15; Red-headed Woodpecker, 1; Red-bellied Woodpecker, 8; Blue Jay, 3; Crow, 15; Goldfinch, 10; White-crowned Sparrow, 25; Tree Sparrow, 300; Slate-colored Junco, 50; Song Sparrow, 30; Cardinal, 8; Tufted Titmouse, 12; Carolina Chickadee, 9. Total, 17 species, about 508 individuals. Two Mockingbirds were seen Dec. 19.—John H. Gooch.

Emmetsburg, Iowa.—Dec. 24; 8 A.M. to 1 P.M. Clear until 10.30 A.M., then cloudy; 10 in. snow that fell first of month, melted down to 6 in., rendering walking difficult; wind northeast until 10.30 A.M., then southeast; temp. 17° at start, 24° at end. During the first three weeks of December the thermometer has registered below zero on thirteen mornings; on eight of those mornings, from 11° to 22° below. Ring-necked Pheasant, 1 (female); Hairy Woodpecker, 8; Downy Woodpecker, 3; Flicker, 1; Blue Jay, 3; Crow, 47; Lapland Longspur, 30; Tree Sparrow, 3; White-breasted Nuthatch, 6; Chickadee, 11. Total, 10 species, 113 individuals.—LeRoy Titus Weeks.

Iowa City, Iowa (2 miles south, then back; then 1 mile north and 1½ miles west of town).—Dec. 26; 8 A.M. to 2 P.M. Partly cloudy at start, cleared at 10.30 A.M.; 4 in. snow; wind northwest, light; temp. 24° at start, 40° on return. Eight miles on foot. Observers together. Bob-white, 15 (one covey); Sparrow Hawk, 1 (studied at 20 yards with five-X glasses); Barred Owl, 1; Hairy Woodpecker, 1; Downy Woodpecker, 16; Red-bellied Woodpecker, 3; Northern Flicker, 1; Blue Jay, 26; American Crow, 8; Goldfinch, 40 (two flocks); Tree Sparrow, 2; Slate-colored Junco, 9; Towhee, 1 (male; studied at distance of 15 feet); Cardinal, 13; Brown Creeper, 5; White-breasted Nuthatch, 18; Tufted Titmouse, 2; Black-capped Chickadee, 40. Total, 18 species, 198 individuals.—Dayton and Lillian C. Stoner.

Sioux City, Iowa (Ravines north of North Riverside, 6 miles from city).—Dec. 23; 10 A.M. to 4 P.M. Clear; ground covered with snow 6 to 14 in.; no wind; temp. 31° to 38°. Observers together. Six to 8 miles afoot. Hairy Woodpecker, 1; Downy Woodpecker, 2; Flicker, 2; Blue Jay, 1; American Crow, 7; Goldfinch, 6; Tree Sparrow, 17; Slate-colored Junco, 13; Towhee, 1; Cardinal, 10; Bohemian Waxwing, 1; Brown Creeper, 2; White-breasted Nuthatch, 2; Red-breasted Nuthatch, 2; Chickadee, 34. Total, 15 species, 102 individuals. This is an actual count but we estimated at least thirty more Chick-

adees. A pair of Magpies was last seen in this locality on Dec. 21, having been seen for three or four days previously. Red Crossbills have been frequently seen this winter, and a flock of 94 Bohemian Waxwings was seen north of the city on Dec. 19. So many Bohemian without any Cedar Waxwings is very unusual here.—Miss Julia Ross, Mrs. H. M. Bailey.

Louisville, Ky.—Dec. 25; 7 A.M. to 4 P.M. Clear; wind slight; temp. 18° at start, 49° on return. Twelve miles on foot. Killdeer, 3; Turkey Vulture, 1; Red-shouldered Hawk, 1; Broad-winged Hawk (?), 1; Belted Kingfisher, 1; Hairy Woodpecker, 1; Downy Woodpecker, 9; Red-bellied Woodpecker, 1; Flicker, 2; Blue Jay, 28; American Crow, 16; Meadowlark, 8; Purple Grackle, 25; White-throated Sparrow, 21; Tree Sparrow, 29; Field Sparrow, 2; Slate-colored Junco, 116; Song Sparrow, 43; Cardinal, 36; Mockingbird, 1; Carolina Wren, 1; Brown Creeper, 4; White-breasted Nuthatch, 11; Tufted Titmouse, 37; Black-capped Chickadee, 32; Bluebird, 3. Total, 26 species, 433 individuals.—Burt L. Monroe.

Bowling Green, Ky. (Glen Lilly, Jennings Creek, Pea Ridge, and along Barren River).—Dec. 22; 8.30 A.M. to 4 P.M. Very heavy fog lasting all day; ground bare; temp. 22° to 30°. About 10 miles on foot. Killdeer, 7; Mourning Dove, 27; Marsh Hawk, 1; Sparrow Hawk, 1; Belted Kingfisher, 1; Hairy Woodpecker, 1; Southern Downy Woodpecker, 11; Pileated Woodpecker, 2; Red-bellied Woodpecker, 7; Flicker, 1 (rarer than usual); Prairie Horned Lark, 29; Blue Jay, 13; American Crow, 250; Meadowlark, 30; Purple Finch, 14; American Goldfinch, 2; White-crowned Sparrow, 12; White-throated Sparrow, 25; Tree Sparrow, 16; Chipping Sparrow, 3; Slate-colored Junco, 250; Song Sparrow, 20; Towhee, 4 (unusually scarce this winter); Cardinal, 50; Cedar Waxwing, 5; Myrtle Warbler, 3 (rare this winter); Mockingbird, 10; Bewick Wren, 1; Brown Creeper, 4; Tufted Titmouse, 25; Carolina Chickadee, 50; Golden-crowned Kinglet, 8 (I made this bird the great object of my trip because it has been so scarce since the winter of 1917–18); Bluebird, 14. Total, 33 species, 897 individuals.—Gordon Wilson.

Lexington, Mo.—Dec. 24; 8 A.M. to 12.30 P.M. Cloudy; ground bare, with a little snow in patches; wind fairly strong and from northeast; temp. 32° to 25°. Observers separate. About 20 miles covered. Bob-white, 5; Mourning Dove, 2; Screech Owl, 1; Hairy Woodpecker, 7; Downy Woodpecker, 25; Yellow-bellied Sapsucker, 1 (the identity is uncertain); Red-bellied Woodpecker, 5; Flicker, 20; Prairie Horned Lark, 3; Blue Jay, 23; Crow, 14; Purple Finch, 1; Goldfinch, 25; White-throated Sparrow, 1; Tree Sparrow, 375; Slate-colored Junco, 750; Song Sparrow, 50; Cardinal, 89; Carolina Wren, 4; Winter Wren, 1; Brown Creeper, 4; White-breasted Nuthatch, 9; Tufted Titmouse, 24; Chickadee, 150. Total, 24 species, 1,589 individuals.—J. Clark Sawyer, E. Gordon Alexander.

Kansas City, Mo.—Dec. 21; 7.30 A.M. to 4.30 P.M. Heavy fog and mist all day; ground frozen hard, and covered with old ice and snow in sheltered places; wind south, light, in afternoon; temp. 28° to 30°. Missouri River and Big Eddy region, Missouri bottoms and bluffs near Courtney, upper Brush Creek Valley, Country Club district prairies, Swope Park neighborhood, Mount Washington Cemetery, Mill Creek region north of Independence, Forest Hill Cemetery, upper Blue Valley near Dodson. Observers were paired in the different regions, and were in the field from 3 to 9 hours. Loon, 1 (identification entirely satisfactory); Merganser, 3; Black Duck, 2; Marsh Hawk, 1; Cooper's Hawk, 1; Barred Owl, 1; Screech Owl, 2; Great Horned Owl, 1; Kingfisher, 1; Hairy Woodpecker, 27; Downy Woodpecker, 69; Red-headed Woodpecker, 1; Red-bellied Woodpecker, 26; Northern Flicker, 14; Blue Jay, 56; Crow, 63; Red-winged Blackbird (subspecies ?), 15; Purple Finch, 7; Crossbill, 21; Goldfinch, 35; Pine Siskin, 4; Lapland Longspur, small flock in the air (identification not entirely satisfactory); Harris's Sparrow, 13; White-crowned Sparrow, 2; Tree Sparrow, 485 (est.); Slate-colored Junco, 710 (est.); Song Sparrow, 18; Lincoln's Sparrow, 1; Swamp Spar-

row, 2; Fox Sparrow, 3; Cardinal, 129; Cedar Waxwing, 5; Mockingbird, 1; Carolina Wren, 27; Brown Creeper, 19; White-breasted Nuthatch, 11; Tufted Titmouse, 59; Chickadee, 194; Robin, 14; Bluebird, 2. Total, 40 species, about 2,046 individuals.—B. F. Bolt, Miss Jennie Clements, Walter Cunningham, Mrs. T. F. English, Wm. C. Michaels, Eldon Michaels, Miss Ella Proctor, Miss Mary Robinson, Mrs. T. C. Sherwood, A. E. Shirling, Chas. W. Tindall and Son, Roy C. Woodworth, Harry Harris.

Marionville, Mo.—Dec. 27; 1.30 P.M. to sunset. Cloudy; ground bare; wind southwest, strong; temp. 35° and upward. Twenty-five to 30 miles in car, with foot trips about 5 miles more. Bob-white, 25; Sparrow Hawk, 1; Cooper's Hawk, 2; Screech Owl, 1; Great Horned Owl, 1; Downy Woodpecker, 2; Kingfisher, 3; Flicker, 4; Prairie Horned Lark, 30; Blue Jay, 14; Crow, 10,000 or over; American Goldfinch, 60; Harris's Sparrow, 1; Tree Sparrow, 80; Song Sparrow, 60; Field Sparrow, 140; Slate-colored Junco, 300; Cardinal, 30; Winter Wren, 1; Tufted Titmouse, 30; Chickadee, 40; Bluebird, 6. Total, 22 species, 10,831 individuals.—Johnson Neff.

Nashville, Tenn. (Bellemeade Farms, Glendale Forest and 40-Acre Reservoir).—Dec. 27; 9 A.M. to 4 P.M. Clear; ground bare; no wind; temp. 32° to 46°. Twelve miles on foot. Redhead Duck, 2; Lesser Scaup Duck, 25; Ruddy Duck, 9; Killdeer, 16; Bob-white, 8; Mourning Dove, 6; Black Vulture, 7; Cooper's Hawk, 1; Red-tailed Hawk, 4; Sparrow Hawk, 6; Barred Owl, 1; Great Horned Owl, 1; Hairy Woodpecker, 4; Downy Woodpecker, 8; Pileated Woodpecker, 2; Red-bellied Woodpecker, 7; Yellow-bellied Sapsucker, 3; Flicker, 60; Prairie Horned Lark, 25 (one flock); Blue Jay, 8; Crow, 5 (flying to large roost 25 miles east); Cowbird, 3,000 (roosting in cemetery in magnolia and coniferous trees with Grackles and Robins); Bronzed Grackle, 12,000 (at roost, see Cowbird note); Meadowlark, 11; Purple Finch, 5; Goldfinch, 12; White-throated Sparrow, 70; Field Sparrow, 140; Song Sparrow, 90; Fox Sparrow, 2; Slate-colored Junco, 140; Towhee, 22; Cardinal, 65; Cedar Waxwing, 1; Myrtle Warbler, 40; Mockingbird, 32; Carolina Wren, 5; Winter Wren, 1; Bewick's Wren, 1; White-breasted Nuthatch, 12; Tufted Titmouse, 7; Carolina Chickadee, 28; Hermit Thrush, 4; Robin, 8,000 (roosting, see Cowbird note); Bluebird, 17. Total, 45 species, about 23,800 individuals.—Geo. R. Mayfield, A. C. Webb, H. S. and Wm. Vaughn, A. F. Ganier (two parties).

Anniston, Ala.—Dec. 25; 8 A.M. to 12 M., east portion of city and adjacent territory, on foot—about 5 miles; 2 to 5 P.M., Oxford Lake and Chocoloco Creek, 3 miles south of Anniston, over circuitous route. Clear; ground bare, except a copious hoarfrost till sun was well up; wind northwest, light; temp. 22° at start, 42° at finish, 35° mean for the day, being 8° below the normal. Killdeer, 6; Mourning Dove, 20; Belted Kingfisher, 1; Southern Downy Woodpecker, 1; Yellow-bellied Sapsucker, 2; Red-headed Woodpecker, 5; Red-bellied Woodpecker, 2; Flicker, 6; Blue Jay, 36; Meadowlark, 50; Goldfinch, 4; White-throated Sparrow, 20; Field Sparrow, 85; Slate-colored Junco, 81; Song Sparrow, 16; Towhee, 27; Cardinal, 5; Myrtle Warbler, 9; Pipit, 51; Mockingbird, 6; Brown Thrasher, 1; Carolina Wren, 2; Brown Creeper, 2; Tufted Titmouse, 6; Carolina Chickadee, 7; Ruby-crowned Kinglet, 1; Robin, 1; Bluebird, 43 (in one flock 28 were counted). Total, 28 species, 496 individuals.—R. H. Dean.

Charlson, N. D.—Dec. 23; 10.45 A.M. to 5 P.M. Cloudy, ground snow-covered on prairie; hills more or less bare; wind southeast, light; temp. 27°. Prairie Sharp-tailed Grouse, 42; Rough-legged Hawk, 1; Horned Lark, 1; Magpie, 7; Redpoll, 42; Snow Bunting, 7; Bohemian Waxwing, 12; Long-tailed Chickadee, 2. Total, 8 species, 114 individuals. Saw the Hairy Woodpecker on Dec. 15.—Adrian Larson.

Yankton, S. D.—Dec. 26; 10.30 A.M. to 5.30 P.M. Clear; ground bare in places, but mostly covered with 3 to 4 or more in. of snow; wind northwest, medium; temp. 40°. Distance covered, 7 miles. Observers together. Ring-necked Pheasant, 1; Hairy Wood-

pecker, 4; Downy Woodpecker, 9; Flicker, 3; Blue Jay, 3; American Crow, 14; Red Crossbill, 2; Redpoll, 6; Goldfinch, 1; Tree Sparrow, 6; Slate-colored Junco, 35; Cardinal, 1; Bohemian Waxwing, 50; Brown Creeper, 4; White-breasted Nuthatch, 4; Long-tailed Chickadee, 75; Robin, 25 ('whisper song' heard twice). Total, 17 species, 243 individuals. A Magpie noted Dec. 23. Reported as unusually common this winter. —G. H. Durand, A. P. Larrabee.

Fremont, Neb.—Dec. 22; 1.30 to 6 P.M. Snow on the ground, melting; temp. 35° to 40°. Screech Owl, 1; Hairy Woodpecker, 4; Downy Woodpecker, 5; Northern Flicker, 2; Prairie Horned Lark, 2; Blue Jay, 3; Crow, 12; Red Crossbill, 6; White-winged Crossbill, 36; Goldfinch, 3; Tree Sparrow, 11; Slate-colored Junco, 6; White-breasted Nuthatch, 3; Brown Creeper, 4; Chickadee, 10. Total, 15 species, 108 individuals. Up to Dec. 1 many Bohemian Waxwings were in the cemetery, often 75 to 100 in a flock; 2 Townsend's Solitaires, and numerous Golden-crowned Kinglets.—Lily Ruegg Button.

Lawrence, Kans.—Dec. 22; 8.30 A.M. to 5.30 P.M. Cloudy; snow in patches; wind south, moderate; temp. about 32°. Fifteen miles on foot. Duck (unidentified flock), 5; Bob-white, 14 (one covey); Mourning Dove, 1; Red-shouldered Hawk, 1; Hawk (another sp.), 1; Hairy Woodpecker, 5; Downy Woodpecker, 8; Red-bellied Woodpecker, 3; Flicker, 8; Blue Jay, 5; American Crow, 12; American Goldfinch, 1; Tree Sparrow, about 75; Slate-colored Junco, about 85; Song Sparrow, 3; Cardinal, 35; Mockingbird, 1; Brown Creeper, 2; White-breasted Nuthatch, 2; Tufted Titmouse, 13; Chickadee, 41; Bluebird, 1. Total, 22 species, about 322 individuals (fewer than usual for this territory). Seen during this week: Marsh Hawk, Prairie Horned Lark, Northern (?) Shrike, Robin.—Jean Linsdale.

Topeka, Kans.—Dec. 22; 8.10 A.M. to 5.30 P.M. Damp and cloudy; few patches of old snow; wind south, light; temp. 29° to 32°. Fourteen miles, wooded creek and prairie. Observers separate most of time. Marsh Hawk, 2; Cooper's Hawk, 2; Western Red-tail, 1; Swainson's Hawk, 1; Sparrow Hawk, 1; Hairy Woodpecker, 2; Downy Woodpecker, 24; Yellow-bellied Sapsucker, 1; Red-bellied Woodpecker, 11; Northern Flicker, 8; Prairie (?) Horned Lark, 6; Blue Jay, 6; Crow, 32; Crossbill, 35; Goldfinch, 1; Pine Siskin, 5; Longspur, (at least one of which was a Chestnut-collared), 27; Tree Sparrow, 45; Junco, 28; Song Sparrow, 4; Cardinal, 23; Brown Creeper, 8; White-breasted Nuthatch, 4; Red-breasted Nuthatch, 1; Tufted Titmouse, 13; Chickadee, 57; Robin, 50; Bluebird, 6. Total, 28 species, 405 individuals. Seen recently in same territory: Dec. 18, Meadowlark, 12; Cedar Waxwing, 30; Harris's Sparrow, 1; Dec. 19, Carolina Wren, 1; Winter Wren, 2.—Horace Gunthorp, Sidney Hyde.

Creek Co., Okla. (Polecat Creek Bottom).—Dec. 22; 9 A.M. to 5.30 P.M. Cloudy; ground bare of snow; wind north, light; temp. slightly above freezing. Bob-white, 18; American Rough-legged Hawk, 3; Hairy Woodpecker, 4; Downy Woodpecker, 1; Red-bellied Woodpecker, 1; Northern Flicker, 1; Blue Jay, 1; American Crow, 1; Harris Sparrow, 20; Field Sparrow, 1; Slate-colored Junco, 150; Swamp Sparrow, 2; Cardinal, 10; Chickadee, 1; Hermit Thrush, 1; Robin, 22; Bluebird, 2. Total, 17 species, about 340 individuals.—Theodor R. Beard.

Norman, Okla.—Dec. 24; 8.30 A.M. to 12.30 P.M., 2 to 5.30 P.M. Cloudy; ground bare; wind north, moderate; temp. 34° in A.M., and 36° in P.M. Eleven miles on foot. Observers separate. Canada Goose, 29; Bob-white, 9 (one covey); Mourning Dove, 3; Marsh Hawk, 2; Sharp-shinned Hawk, 1; Screech Owl, 1; Hairy Woodpecker, 5; Southern Downy Woodpecker, 19; Red-bellied Woodpecker, 1; Northern Flicker, 25; Red-shafted Flicker, 1; Prairie Horned Lark, 7; Blue Jay, 2; Crow, 21; Red-winged Blackbird, 600; Western Meadowlark, 6; American Goldfinch, 21; Harris Sparrow, 82; Tree Sparrow, 3; Field Sparrow, 5; Junco, 28; Song Sparrow, 20; Towhee, 1; Cardinal, 95; Carolina Wren, 2; Bewick's Wren, 2; Brown Creeper, 2; Tufted Titmouse, 2; Carolina Chickadee,

54; Robin, 5; Bluebird, 30. Total, 31 species, 1,093 individuals. Loggerhead Shrike and Mockingbird seen on Dec. 23.—MARGARET M. and L. B. NICE.

Eastend, Saskatchewan, Canada (Valley of the Frenchman River).—Dec. 22; 9.30 A.M. to 5.30 P.M. Overcast; little snow left, except in drifts; wind southwest (Chinook), strong; temp. 36° at start, 40° at finish. About 15 miles on foot. Sharp-tailed Grouse, 1; Magpie, 8; Redpoll, 20; Snow Bunting, 15; Lapland Longspur, 1; Bohemian Waxwing, 9; Chickadee, 6. Total, 7 species, 60 individuals.—LAWRENCE B. POTTER.

Calgary, Alberta, Canada.—Dec. 21; 9.30 A.M. to 5.30 P.M. Calm; ground mostly bare; temp. 8 A.M. 34°, 5.30 P.M. 40°. Five miles along the Bow River, from the city limits. On the prairie coming back. American Merganser, 6; Mallard, 2 (males); Golden-eye, 11; Duck, 1 (unidentified); Wilson Snipe, 2; Owl, 1 (medium-sized, unidentified); Prairie Chicken, 9; Hungarian Partridge, 17; Hairy Woodpecker, 2; Downy Woodpecker, 12; Magpie (while coming home, near dusk, I counted 103 of them flying to some roosting-place. I saw one or more about every minute, while going along the river); Redpoll, 45+; Snow Bunting, heard; Chickadee, 24. Total, 14 species, 234+ individuals. Seen recently: Dec. 20, Bohemian Waxwing, 10; Dec. 14, Great Horned Owl, 1; Kingfisher, 1.—PERCY L. CUSTANCE.

Bozeman, Mont.—Dec. 24; 10 A.M. to 2 P.M. Partly cloudy; 8 in. snow; fitful westerly breeze; temp. 37° at start, 48° at return. About 5 miles on foot. Magpie, 15; Black-headed Jay, 2; Western Crow, 11; Alaskan Pine Grosbeak, 5; Redpoll, 18; Western Tree Sparrow, 13; Slate-colored Junco, 2; Intermediate Junco, 3; Mountain Song Sparrow, 3; Bohemian Waxwing, 9; Long-tailed Chickadee, 5. Total, 11 species, 86 individuals.—NELSON LUNDWALL.

Denver, Colo.—Dec. 25; 8.30 to 9.30 A.M., 11.30 A.M. to 12.30 P.M., in parks afoot; 1.30 to 4.30 P.M., 9 miles east by auto, and then afoot. Partly cloudy; old snow in shaded patches; wind, forenoon, south, light, afternoon, east, stronger; temp. 38° at sunrise, 47° at sunset. Ring-neck Pheasant, 3; Mourning Dove, 2; Prairie Falcon, 1; Richardson Merlin, 1; Western Sparrow Hawk, 1; Saw-whet Owl, 1; Rocky Mountain Screech Owl, 2; Rocky Mountain Hairy Woodpecker, 1; Lewis's Woodpecker, 2; Red-shafted Flicker, 6; Desert Horned Lark, 1; Magpie, 90; Red-winged Blackbird, 200; House Finch, 23; Western Tree Sparrow, 12; Grey-headed Junco, 1; Long-tail Chickadee, 1; Mountain Chickadee, 8; Townsend's Solitaire, 1. Total, 19 species, about 358 individuals. The absence of our different Christmas Juncos in the parks is attributed to the presence of the Hawks and Owls.—W. H. BERGTOLD.

Marnel, Colo. (15 miles south of Pueblo).—Dec. 23; 8.30 A.M. to 4.20 P.M. Clear and calm; ground bare except in the forests and north slopes where the snow was several inches deep in places; temp. 28° at start, 40° at return. Ten miles through field and forest, partly on foot. Sealed Partridge, 13 (one covey); Ferruginous Rough-legged Hawk, 2; Hairy Woodpecker, 1; Red-shafted Flicker, 3; Desert Horned Lark, 35; Piñon Jay, 19; Long-crested Jay, 2; Magpie, 11; American Raven, 1; Western Evening Grosbeak, 1; House Finch, 10; Montana Junco, 50; White-winged Junco, 6; Pink-sided Junco, 3; Canyon Towhee, 1; Bohemian Waxwing, 250+; Gray Titmouse, 2; Mountain Chickadee, 2; Western Robin, 4; Townsend Solitaire, 43; Mountain Bluebird, 100+. Total, 21 species, about 560 individuals.—J. G. DICK.

Comox, B. C.—Dec. 24; 8.30 A.M. to 5 P.M. Fine spring-like day; no snow; wind south, light; temp. 40° at 8 A.M., 58° at noon. Distance covered about 10 miles on foot. All large numbers estimated. Western Grebe, 500; Holbœll's Grebe, 4; Horned Grebe, 20; Loon, 3; Pacific Loon, 40; Red-throated Loon, 3; Marbled Murrelet, 2; Pigeon Guillemot, 1; California Murre, 2; Glaucous-winged Gull, 250; Herring Gull, 4; Short-billed Gull, 32; White-crested Cormorant, 1; Violet-green Cormorant, 4; American Merganser (?), 3; Red-breasted Merganser, 14; Hooded Merganser, 2; Mallard, 35; American

Widgeon, 16; Scaup, 2,000; Lesser Scaup, 2; Golden-eye, 1,200; Bufflehead, 400; Harlequin, 2; Old Squaw, 15; American Scoter, 300; White-winged Scoter, 1,000; Surf Scoter, 1,000; Black Brant, 3; Northwestern Coast Heron, 2; Coot, 4; Oregon Ruffed Grouse, 1; Chinese Pheasant, 2; Northern Bald Eagle, 2; Sharp-shinned Hawk, 1; Pygmy Owl, 1; Northern Pileated Woodpecker, 1; Gairdner's Woodpecker, 1; Northwestern Flicker, 8; Steller's Jay, 3; Northern Raven, 2; Northwest Crow, 120; Western Meadowlark, 30; Brewer's Blackbird, 70; Northwest Redwing, 6; Evening Grosbeak, 3; Oregon Junco, 24; Sooty Song Sparrow, 6; Oregon Towhee, 2; Northern Shrike, 1; Seattle Wren, 3; Western Winter Wren, 1; Anthony's Vireo, 1; Dwarf Hermit Thrush (?), 1; Western Robin, 1; Varied Thrush, 2. Total, 56 species, 7,157 individuals.—Allan Brooks.

Olympia, Wash.—Dec. 26; 7.40 A.M. to 5 P.M. Cloudy most of day, with a little sunshine from 1 to 3 P.M.; wind south, warm, light; temp. 46° at start, 52° at end. Five miles north over upland, back along beach. Horned Grebe, 30; Marbled Murrelet (?), 2; Glaucous-winged Gull, 30; California Gull, 3; Red-breasted Merganser, 1; Canvasback, 20; Scaup, 30; American Golden-eye, 30; Surf Scoter, 40; Fannin's Heron, 1; Coot, 10; Wilson's Snipe, 14; California Quail, 9; Oregon Ruffed Grouse, 1; Kingfisher, 2; Harris Woodpecker, 2; Gairdner's Woodpecker, 1; Northwest Flicker, 14; Steller's Jay, 3; Northwest Crow, 60; Northwest Redwing, 3; Western Meadowlark, 1; Western Evening Grosbeak, 30; California Purple Finch, 18; Pine Siskin, 28; Oregon Junco, 50; Rusty Song Sparrow, 30; Oregon Towhee, 16; Bohemian Waxwing, 30; Cedar Waxwing, 9; Seattle Wren, 15; Western Winter Wren, 75; California Creeper, 3; Red-breasted Nuthatch, 2; Oregon Chickadee, 25; Chestnut-backed Chickadee, 30; Western Golden-crowned Kinglet, 100; Sitkan Kinglet, 2; Western Robin, 62; Varied Thrush, 1. Total, 40 species, roughly, 833 individuals. The Bohemian Waxwings were studied under a high power glass for 15 minutes or more, while they were feeding on frozen apples. The Kadiak Fox or Townsend's (?) Sparrow was observed in the dense underbrush at sea-level near Tumwater on Dec. 24.—Thor McKnight.

Seattle, Wash. (Seattle Lake Shores and Parks, Medina, Kirkland, Mercer Island).—Dec. 21; 10 A.M. to 5 P.M. Cloudy; thick mist after 1 P.M., rain after 2.55 P.M.; ground bare; wind easterly, light; temp. 49° to 54°. Observers in eleven parties as indicated, each covering a different territory. Horned Grebe, 22; Western Grebe, 8; Holbœll Grebe, 3; Pied-billed Grebe, 3; Pacific Loon, 1; Glaucous-winged Gull, 995; California Gull, 51; Short-billed Gull, 6; Herring Gull, 25; Ring-billed Gull, 1; Pigeon Guillemot, 53; Red-breasted Merganser, 1; Mallard, 111; Shoveller, 3; Pin-tail, 8; Canvasback, 15; Scaup Duck, 248; Bufflehead, 82; Golden-eye, 1; Old Squaw, 3; Ruddy Duck, 12; Northwestern Coast Heron, 5; Coot, 1,272; Wilson Snipe, 3; California Quail, 250; Ring-necked Pheasant, 19; Pigeon Hawk, 1; Sparrow Hawk, 2; Northwest Belted Kingfisher, 6; Cabanis Woodpecker, 1 (specimen collected and positively identified); Gairdner's Woodpecker, 2; Harris Woodpecker, 2; Northwestern Flicker, 105; Steller's Jay, 99; Western Crow, 299; Northwestern Redwing, 1; Western Meadowlark, 8; Western Evening Grosbeak, 52; California Purple Finch, 8; Willow Goldfinch, 141; Pine Siskin, 1,198; Shufeldt's Junco, 1,076; Rusty Song Sparrow, 278; Fox Sparrow, 8; Oregon Towhee, 128; Cedar Waxwing, 80; Bohemian Waxwing, 1,380 (large size, white wing coverts noted); Anthony's Vireo, 2; Audubon Warbler, 51; Townsend's Warbler, 1; Seattle Wren, 66; Western Winter Wren, 39; Tule Wren, 4; Red-breasted Nuthatch, 4; Oregon Chickadee, 125; Chestnut-backed Chickadee, 33; Bush Titmouse, 55; Western Golden-crowned Kinglet, 125; Ruby-crowned Kinglet, 14; Townsend's Solitaire, 1; Western Robin, 251; Varied Thrush, 100; Western Bluebird, 19. Total, 63 species, 8,943 individuals.—Mrs. C. C. Crickmore and Mrs. J. D. Terry; Mrs. S. M. Kane, Miss Mayme Farrar, Miss Grace Farrar and Miss Kate Thompson; Miss A. L. Pollock; Miss Turna Monagle and Miss Katherine Bryan; F. W. Cook; Mrs.

Laura Kent; George W. Parker; Miss Susan Weed; Mrs. Eleanor DeLong and Leroy DeLong; Mrs. Nellie Timmerman and Mrs. C. N. Compton; D. E. Brown, T. D. Burleigh and A. D. McGrew.

Portland, Ore.—Dec. 24; 9 A.M. to 4.30 P.M. Rain; ground bare except for occasional spots of melting snow in drifts; temp. 54°. Holbœll's Grebe, 1; Pied-billed Grebe, 2; Glaucous-winged Gull, 200; Mallard, 5; Baldpate, 40; Blue-winged Teal, 1; Pintail, 15; Lesser Scaup Duck, 25; Bufflehead, 10; Coot, 30; Ring-necked Pheasant, 3; Cooper's Hawk, 1; Short-eared Owl, 1; Belted Kingfisher, 1; Red-shafted Flicker, 2; Steller's Jay, 3; California Purple Finch, 12; English Sparrow, 4; Golden-crowned Sparrow, 1; Oregon Junco, 50; Rusty Song Sparrow, 8; Oregon Towhee, 3; Bohemian Waxwing, 4; Cedar Waxwing, 24; Audubon's Warbler, 1; Western Winter Wren, 1; Tule Wren, 2; California Creeper, 2; Red-breasted Nuthatch, 1; Oregon Chickadee, 21; Chestnut-backed Chickadee, 7; Bush Titmouse, 10; Golden-crowned Kinglet, 5; Western Robin, 1; Varied Thrush, 1; Western Bluebird, 2. Total, 37 species, 508 individuals.—Mary E. Raker.

Los Angeles, Calif. (to Brush Canyon, Griffith Park, Silver Lake, and back).—Dec. 22; 7.30 A.M. to 5.30 P.M. Clear; ground bare; wind light; temp. 48° at start, 52° at return. Nine miles on foot. Observers together. Western Grebe, 5; California Gull, 2; Duck (unidentified), 19; American Coot, 250; Spotted Sandpiper, 2; Killdeer, 35; Valley Quail, (heard); Sharp-shinned Hawk, 2; Road-runner, 1; Nuttall Woodpecker, 4; Red-shafted Flicker, 44; Hummingbird (unidentified), 2; Black Phœbe, 2; Steller Jay, 1; California Jay, 2; Red-winged Blackbird (sub. sp. ?), 7; Western Meadowlark, 13; Brewer Blackbird, 175; House Finch, 28; Green-backed Goldfinch, 22; Western Lark Sparrow, 1; Gambel Sparrow, 11; Sage Sparrow (?), 4; Song Sparrow, 5; Shumagin (?) Fox Sparrow, 2; Spurred Towhee, 2; California Towhee, 7; California Shrike, 4; Audubon Warbler, 13; Pacific Yellow-throat, 3; Western Mockingbird, 11; California Thrasher, 2; Wren (unidentified), 1; Plain Titmouse, 1; Wren-tit, 2; Ruby-crowned Kinglet, 4; Western Gnatcatcher, 1; Hermit Thrush, 6; Western Robin, 25. Total, 39 species, 690 individuals. On Dec. 21 we saw and identified for certain, a Sandhill Crane, about 25 miles northeast of here.—Edward Peterson, Richard Starr.

Santa Barbara, Calif.—Dec. 24; 5.30 A.M. to 6.30 P.M. Clear, except low fog on ocean which greatly hindered sea work; temp. 42° at alt. 300 feet, 54° at alt. 700 ft. Territory covered 8 miles across, 44 miles by auto, 6 miles on foot. All observers in one party. Western Grebe, 2; Eared Grebe, 1; Pied-billed Grebe, 1; Red-throated Loon, 2; Ancient Murrelet, 1; Glaucous-winged Gull, 6; Western Gull, 200; California Gull, 500; Ring-billed Gull, 50; Heermann Gull, 10; Bonaparte's Gull, 200; Royal Tern, 11; Farallone Cormorant, 500; Brandt's Cormorant, 400; Baird's Cormorant, 10; California Brown Pelican, 2; Mallard, 16; Gadwall, 1; Baldpate, 20; Green-winged Teal, 20; Cinnamon Teal, 1; Shoveller, 1,500; Pintail, 500; Canvasback, 300; Lesser Scaup Duck, 50; White-winged Scoter, 4; Surf Scoter, 40; Ruddy Duck, 300; Whistling Swan, 44; Great Blue Heron, 4; Egret, 1; Coot, 400; Least Sandpiper, 200; Sanderling, 500; Spotted Sandpiper, 1; Black-bellied Plover, 150; Killdeer, 10; Snowy Plover, 30; Valley Quail, 12; Mourning Dove, 3; Turkey Vulture, 1; Marsh Hawk, 1; Sharp-shinned Hawk, 2; Western Red-tail, 2; Red-bellied Hawk, 2; Bald Eagle, 1; Duck Hawk, 2; Sparrow Hawk, 6; Barn Owl, 4; Short-eared Owl, 1; California Screech Owl, 2; Pacific Horned Owl, 1; Road-runner, 1; Belted Kingfisher, 1; Nuttall's Woodpecker, 1; Red-breasted Sapsucker, 2; California Woodpecker, 30; Red-shafted Flicker, 60; Anna's Hummingbird, 8; Say's Phœbe, 4; Black Phœbe, 6; California Horned Lark, 1; California Jay, 16; San Diego Redwing, 400; Western Meadowlark, 80; Brewer's Blackbird, 300; California Purple Finch, 20; House Finch, 700; Willow Goldfinch, 2; Green-backed Goldfinch, 40; Pine Siskin, 30; Western Savannah Sparrow, 40; Bryant's Sparrow, 4; Belding's Sparrow, 30; Large-billed Sparrow, 2; Western Lark Sparrow, 10; Gambel's Sparrow, 1,200;

Golden-crowned Sparrow, 200; Thurber's Junco, 30; Rufous-crowned Sparrow, 6; San Diego Song Sparrow, 10; Thick-billed Fox Sparrow, 10 (there are known to be three races of Fox Sparrow present); San Diego Towhee, 10; Anthony's Towhee, 20; Tree Swallow, 1; California Shrike, 6; Hutton's Vireo, 6; Dusky Warbler, 4; Myrtle Warbler, 10; Audubon's Warbler, 500; Townsend's Warbler, 2; Western Yellow-throat, 2; Pipit, 40; Western Mockingbird, 6; California Thrasher, 3; Rock Wren, 1; San Diego Wren, 4; Tule Wren, 6; Red-breasted Nuthatch, 3; Plain Titmouse, 14; Bush-Tit, 20; Pallid Wren-Tit, 20; Ruby-crowned Kinglet, 20; Western Gnatcatcher, 4; Alaska Hermit Thrush, 10; Dwarf Hermit Thrush, 60; Western Robin, 10; Varied Thrush, 6; Mountain Bluebird, 6. Total, 109 species, 10,026 individuals.—Ralph Hoffman, Dr. H. C. Henderson, Mrs. Charlotte Boutwell, Mrs. R. L. Winchell, and William Leon Dawson (guest and four members of the Museum of Comparative Oölogy).

La Jolla, Calif.—Dec. 22; 9.20 A.M. to 3 P.M. Weather somewhat hazy at first, became clear; practically no wind; temp. 62° at start, 60° at return. Northerly along the coast for 2 miles, return along coast for ½ mile, thence over chaparral covered hills, and around and down into the town. Western Gull, 125; Heermann Gull, 1; Royal Tern, 9; Farallone and Brandt's Cormorants, 75 (could not separate the two species in the field at the distance at which observations were made); California Brown Pelican, 18; Least Sandpiper, 22; Red-backed Sandpiper, 50; Sanderling, 34; Western Willet, 2; Spotted Sandpiper, 8; Black-bellied Plover, 1; Killdeer, 3; Snowy Plover, 5; Sparrow Hawk, 2; Road-runner, 1; Say's Phœbe, 4; Black Phœbe, 2; Western Meadowlark, 6; Western Savannah Sparrow, 15; Gambel's Sparrow, 75; Anthony's Towhee, 7; California Shrike, 1; Audubon's Warbler, 10; Pipit, 4; Western Mockingbird, 1. Total, 26 species 451 individuals.—Edward R. Warren.

BLUE JAY
Photographed by Joseph Polack, Carman, N. Y.

THE SEASON

XVII. October 15 to December 15, 1919

Boston Region.—The weather during the period covered by this report has been mild, in the main, but during the two months there occurred several sudden, sharp falls in temperature which brought midwinter conditions for a day or two. Soon, however, the west wind restored the spring-like, showery weather, during which wintering Meadowlarks sang freely.

Birds have not been numerous. Chipping Sparrows left, as usual, promptly on October 25. Purple Finches, during the latter half of October, fed in small flocks on the seeds of the white ash (of which there is an abundant crop) and to a less extent on the seeds of the tulip tree. Red Crossbills were heard on October 19 and Pine Siskins were numerous for the month following October 15. Fox Sparrows were late in appearing, but the main flight had passed at the normal date, November 15. Myrtle Warblers were present until November 11. It may be recalled that this species appeared here in late August, hence the last migrant was eleven weeks behind the first. Both August and November birds were positively migrants, for the species never breeds or winters in Lexington.

Mr. Horace W. Wright has kindly sent me records of his careful, systematic observations during the autumn, about Boston. He found Redpolls in fair numbers between November 8 and December 2; White-winged Crossbills, October 29 to December 1; a flock of 25 birds at Fresh Pond, Cambridge, October 29; Red Crossbills October 30 to December 1; 30 at Belmont, November 3; he saw none of either species after December 1.

Tree Sparrows, arriving normally on October 29 (Wright), have since become scarce, as have Juncos. Acadian Chickadees, Pine and Evening Grosbeaks have not appeared. A late flight of Brown Creepers was noted in early December.—Winsor M. Tyler, M.D., *Lexington, Mass.*

New York Region.—The autumn was an open one until, by early December, the regular winter cyclonic rotation of rainy spells and cold clear-offs had become well marked. In response to the mild weather there are reports of stragglers of several species lingering late. Such are a couple of Chipping Sparrows, observed by the writer at Hempstead, Long Island, November 23, loosely associated with a flock of Juncos. Common associations of different species of winter Sparrows gives an interesting slant on their habits and habitats. For instance, one seldom finds White-throated and Tree Sparrows together, whereas the Junco flocks freely with either one. The Song Sparrow is often found with the White-throat; do others share our opinion that it is more frequent with the Tree Sparrow than with the Junco?

As is often the case in mild seasons, the last scattering south-bound birds were noticed in early December. At Garden City there was a single stray Myrtle Warbler on November 27, two weeks or more later than any others had been seen. The Fox Sparrow was noted on December 7; the Robin on December 15. None of the three winter in the immediate vicinity. Reports from New Jersey indicate a flight of Canada Geese near New York City the end of the first week in December.

Some distance up the Hudson (according to M. S. Crosby of Rhinebeck, N. Y.) the American Merganser arrived November 21 and the Golden-eye Duck December 1 (both early), and Redpolls were noted on the first of December, but not since. Grackles to the number of 1,500 were still roosting in a swamp (near Tivoli) with Starlings, December 8, where none could be found on December 14.

One of the most inte esting features of the season has been the appearance of the American Crossbill, nowhere common as yet near the city, though observed in some numbers among the pitch pines east on Long Island in early November. It has

been noted at Long Beach (a single bird, November 9, W. G. Van Name), three or four times at Plainfield, N. J., (W. DeW. Miller), and twice at Garden City (November 30 a single bird which paused but an instant in the top of a pine, and December 11 two flying over high, J. T. N.) R. Friedmann reports a White-winged Crossbill within the city of Brooklyn associating with House Sparrows, October 31! There seems to be little chance of error having been made in the identification. Two White-winged Crossbills are recorded by L. S. Crandall of the New York Zoölogical Park about December 7; one rosy, the other greenish.

Domestic Pigeons, which come and go at will, are scarcely less interesting in their affairs than wild birds. A young one with a nest in our barn at Garden City had recently hatched her first egg on December 14; she was still a squab in the nest the latter part of April. This is her mate, an adult's fourth brood this year, his original spouse having disappeared after the third.—J. T. Nichols, *New York City.*

Philadelphia Region.—The temperature for October and November was unusually mild, no killing frost occurring until about the middle of November; on the 9th of this month tomato vines were still green and pepper plants were still in a flourishing condition in southern New Jersey. Farmers stated that it had been the mildest fall in a number of years.

The great abundance of Siskins, first noted about October 15, scattered flocks of Crossbills, and an almost entire absence of Chickadees (at least locally) were the outstanding features of the season.

The fall migration of Chipping and Fox Sparrows seemed considerably above normal. The former birds appeared most common the last week in October and were still present in numbers till the middle of November. Perhaps the abundance of Fox Sparrows was more apparent than real, as many of these birds favored us by singing this fall—full, rounded melodies of spring-like clearness. This singing was not confined to a few birds in a single locality but seemed quite general, certainly a rather unusual performance for the Fox Sparrow.

The fall shooting-season was reported to have been the most successful since the state license system was adopted in New Jersey. The more common Ducks were quite plentiful on the Delaware River and Bay, and Quail were abundant in southern New Jersey. A few Woodcock were also secured by the sportsmen, perhaps more than the ordinary number. Three reasons may be advanced for the plentiful game-supply this fall: the mild winter of 1918–19; the dearth of gunners last fall, many of whom were occupied in the more strenuous work of the World War; and the probable beneficial effect of the Migratory Bird Law. As for this fall, gunners without end appeared to be afield, and the few Saturday afternoons that walks were taken during the season sounded like the Fourth of July, so constant was the bang! bang! If observations can be relied upon, all living things were being brought to bag that wore fur or feathers, and these not being found, a rail-fence, tin can, or most anything, came in for a load of shot. This reckless shooting was more especially noticeable among the younger gunners. Boys of fourteen years can obtain a license in New Jersey now, with their parents' consent. Should the coming winter be a mild one, sportsmen will have abundant opportunity to observe next fall just what result the unprecedented army of gunners has had on the game.

In summing up the year's observations, which were confined almost entirely to southern New Jersey, 1919 appears to have been a remarkably good year for birds, both as to number of individuals and species noted. During the year, 193 varieties were observed in the above mentioned locality.—Julian K. Potter, *Camden, N. J.*

Washington Region.—October and November of 1919 were ornithologically rather interesting months about Washington. The relatively warm and pleasant weather was favorable to bird observa-

tion, and on many of the milder days, when the atmosphere was still and hazy, the birds were very active as well as apparently numerous for the time of year. This was true not only of the country districts, but also of places well within the city limits.

Of the habitually later arrivals among our winter residents, only two were much earlier than usual. These were the Herring Gull, which appeared on October 17, although its average autumn date is November 8; and the Rusty Blackbird, which was noted by Mr. A. Wetmore on Plummer's Island, Md., October 5, but which ordinarily does not come until October 21. Others generally were rather late.

Apparently allured by the prevalent mild weather, many species lingered later than ever before known. These include the following, the dates in parentheses indicating the latest records previous to this year: The Laughing Gull, seen at New Alexandria and Dyke, Va., by Mr. Francis Harper on October 26 (September 24, 1894); Blackburnian Warbler, reported by Miss Marion Pellew, October 10 (October 7, 1889 and 1914); Wilson Warbler, reported by Miss Pellew, October 13 (October 6, 1904); Parula Warbler, by the same observer, October 17 (October 16, 1899); Northern Water-Thrush, seen by Miss Pellew at Chain Bridge, D. C., October 16 (October 7, 1897); Maryland Yellow-throat, reported from the Anacostia River, D. C., by Mr. Francis Harper, November 2 (October 22, 1916); Philadelphia Vireo, seen at Plummer's Island, Md., by Mr. A. Wetmore, October 5 (September 22, 1889); and the Rose-breasted Grosbeak, noted by Miss Pellew on October 11 (October 6, 1907).

Several other birds, while not breaking their extreme records, remained later than usual, among them, the Black and White Warbler, seen by Miss Pellew on October 14, while its average date of departure is September 22; the White-eyed Vireo, reported on October 13 (average date of departure, October 7); the Ruby-throated Hummingbird, noted by Mr. A. S. Ferrell at Woodridge, Md., on October 6 (average date of leaving, September 20); and the American Redstart, observed by Miss Pellew on October 7, the average autumn date of departure of which is September 19, and the very latest date, October 8, 1916.

Furthermore, the Black-bellied Plover, of which there are but two previous records for the district, September 26, 1914 and October 24, 1916, was seen by Mr. A. Wetmore at Plummer's Island, Md., on October 26, 1919.

Notwithstanding the warm weather in this vicinity, two northern birds have been unusually numerous during this autumn. The Pine Siskin, in flocks, has been common all about Washington since October 26, when several companies were noted by Mr. Francis Harper near New Alexandria, Va. That always interesting bird, the American Crossbill, made its appearance here on November 13, when some were seen in the Mall of the city of Washington by Mr. J. P. Young. Later it was observed in small flocks on November 18 at Arlington, Va., by Miss Katherine H. Stuart; on November 22 in the Zoölogical Park, by Mr. N. Hollister; and at Four-Mile Run, Va., on November 30, by Mr. A. Wetmore.

Ducks of several species, in company with other water-fowl, have been reported as abundant on the Potomac River below Alexandria, Va., though comparatively few have been observed above that point. Apparently their numbers are increased over last year, which is generally gratifying in view of the efforts that have in recent years been made for the protection of these birds. Among the most pleasing developments of this character is the return of the Whistling Swans to this region. A flock of about forty individuals was seen by Mr. George Marshall on November 2, which indicates that the birds will doubtless winter on the Potomac River, as they have done for the several years just past.—Harry C. Oberholser, *Biological Survey, Washington, D. C.*

Oberlin (Ohio) Region.—It was a most unusually warm autumn season,

with no really winter weather until mid-December. There were a few isolated days, in late November, when the temperature went somewhat below freezing, but there was no snow on the ground during the whole of November.

The Swallows and Swifts left on October 10, because of a cold rain which continued for three days. The distinctively winter birds, such as Juncos, Tree Sparrows, Purple Finches, Ruby-crowned Kinglets, came on October 18, at which time nearly normal winter conditions began, with only Robins, Bronzed Grackles, Red-winged and Rusty Blackbirds, Meadowlarks, Killdeers, and Bluebirds to fall off in numbers.

There has, thus far, been no reason why the casual winter visitors should come as far south as this, and none have been seen. The first real winter weather, accompanied by a fall of snow, began on December 13, and continues to date (the 18th). People have begun to feed the Cardinals, and the Flickers, Chickadees, Downy and Hairy Woodpeckers are again gathering about the lunch-counters which are provided for them.—LYNDS JONES, *Oberlin, Ohio.*

MINNESOTA REGION.—Following the continued mild weather of early fall, there was a rather sudden change to unusually early winter conditions in the latter part of October. On October 23, a severe snowstorm occurred over northern Minnesota, nearly a foot of snow falling in the central portion, which had increased to some fifteen inches by the 27th. On the latter date, the first snow fell at Minneapolis, and the following day the ground was frozen and a wintry aspect prevailed, with the thermometer + 20 degrees. Up at Moorhead, on the western border of the state, the temperature was + 2 degrees. So abrupt was the onset of the cold that many hunting parties in the upper parts of the state were caught unprepared, and, in some instances, underwent rather severe experiences. Thus, the sudden freezing, on the 29th, of Leech Lake, a large body of water in the center of the state, a little north of the latitude of Duluth, caused the marooning of a party of duck-hunters on one of the islands, and their release was only effected by breaking the ice with a strong logging steamer. Traveling in the forests became difficult, and several men were lost. Snows have been frequent all over this upper country to the present time, and in places the accumulation has reached as much as 3 feet in depth.

By November 2 the small lakes and ponds in the vicinity of Minneapolis were finally frozen over, and many Ducks, taken by surprise, were to be seen sitting about in disconsolate groups on the surface of the ice. November continued cold thereafter, with frequent light snows. December opened with a minus 12 degrees in the A M. at Minneapolis, and a subzero day throughout. This sort of weather has continued, with little let-up, to the present date. The whole state is now covered with snow—several inches in the southern part, 1 to 3 feet in the northern part.

Navigation closed on Lake Superior December 9, after many terrible and disastrous storms, and the lake is now frozen to an extent unusual at this time of year. On December 8, the temperature was minus 26 degrees at Duluth and minus 20 degrees at Moorhead, over on the Red River of the North. Winter came upon us early and intensely.

The great abundance of Ducks that appeared in Minnesota in the early fall continued throughout the remainder of the season until the 'freeze up' and may be regarded as the salient feature of the autumn bird movement. Not only were the numbers greater than for some years past, but the variety of species represented at most localities was unusual. Canvasbacks, Redheads, Scaups, and even White-winged Scoters were frequent in the eastern part of the state where they are normally uncommon. It would appear that there was a more than ordinary flight of Ducks into Minnesota this year from the northwestern breeding-grounds. Everywhere duck-hunters made easy and varied limit-'bags.' But the early cold weather put a premature and sudden end to the

season, even at Heron Lake away down by the Iowa line. The number of Ducks in the immediate vicinity of Minneapolis, even within the city limits, revived memories of the old days when shooting used to be good in ponds and lakes now included in, or adjacent to, the present park system. Late in October and early in November, Lesser Scaups, Ring-necks and Golden-eyes congregated in Lake Minnetonka, a big lake not far from Minneapolis and the central area in a State Game Refuge, in such numbers that local papers carried facetious articles calling upon the Commissioner of Game and Fish to provide a remedy for the impeded navigation!

Of other migrant birds and late dates the following records are of interest—all for the vicinity of Minneapolis: October 19, 3 young Harris's Sparrows. On October 26, during a walk of two hours in the outskirts of the city, in company with Mr. Burton Thayer, some 250 birds were seen, divided very unequally among 32 species, the features of special importance being a flock of 25 Sandhill Cranes flying over high in the air, 1 Solitary Sandpiper beside the frozen margin of a small lake, 3 much-belated Chimney Swifts, 3 Fox Sparrows, 2 very late Hermit Thrushes, 3 Red-headed Woodpeckers, and the first distinct fall 'wave' of Juncos and Tree Sparrows. On November 8, Burton Thayer and Charles Phillips reported 1 Pied-billed Grebe and 3 Coots at Lake Minnetonka, which was still open and full of Ducks. Migrating Juncos and Tree Sparrows were abundant everywhere on that date. A walk on November 23 over the same route followed on October 6, revealed only the dreary conditions and paucity of bird-life found here in the winter season. Silence and loneliness prevailed in the woodlands, and many skaters gliding over the surfaces of the lakes replaced the water-fowl that had so recently fled.

Winter visitant birds have appeared in various parts of the state, in some instances rather earlier than usual. Dr. Leslie O. Dart reported that on October 23, the date of the first big snowstorm, there occurred just north of Leech Lake a great flight of Snow Buntings, "thousands and thousands of them in successive flocks." They came in the midst of the falling snow and replaced a horde of Juncos that scurried away before the advancing storm. On the same date, or thereabouts, Mr. Carlos Avery witnessed a similar occurrence on the west shore of Red Lake and says that many Redpolls appeared there at the same time as the Snow Buntings. Bohemian Waxwings have been seen in numerous places as far south as Minneapolis and even away out on the southwestern prairies at Madison, Lac qui Parle County (Miss Mary Donald). No Evening Grosbeaks have been seen as yet and Pine Grosbeaks in only one or two places. But it will perhaps be better to leave the winter-bird conditions for a general summary later after more complete data have been obtained.—Thos. S. Roberts, *University of Minnesota, Minneapolis, Minn.*

Kansas City Region.—Recent efforts to interest rural observers in this region to send in notes on the birds, especially during the seasons of migration, have resulted in the accumulation of some data of no little value. Chief among the items of interest to record is the addition to the writer's list of the birds of this region of the Eared Grebe. It is indeed strange that this species has been so long overlooked here, seeing that it breeds commonly in Nebraska and occurs regularly in Iowa during migration. There are records even for eastern Missouri, yet the first authentic instance, known to the writer, of the bird's occurrence in the entire western Missouri and eastern Kansas area was recorded on October 28. A specimen was taken on this day from a scattered flock of a dozen individuals on the Missouri River, a few miles below Courtney, by William Andrews. Fortunately, the skin was preserved. This observer has also furnished some exact information bearing on the question of increase in the numbers

of Ducks and Geese. It appears from his daily notes that such Ducks as the Redhead, Canvasback, and Ruddy are returning in ever-increasing numbers, while the more common Scaup, Mallard, and Pintails show an even greater proportionate increase.

From the information at hand it is difficult to decide whether or not the Geese are showing any increase at all, though encouraging reports come in. On at least one day, October 19, White-fronted, Canada, and Hutchins's Geese were present in unusual numbers throughout the entire region, one flock of between 50 and 60 (sp.?) being seen circling the Swope Park Lakes within the city limits. On October 21, 5 specimens of Greater Snow Geese were taken from a flock of 20 on the Missouri River. Three of these birds were carefully measured in the flesh, and all came fully up to Greater specifications. On the 23d, 5 more, all measuring well over 29 inches in length, were taken from a large flock in the same neighborhood. This is the first opportunity that has offered in several years to personally examine specimens of this rare Goose. On the 26th, water-fowl were present on the Missouri in such numbers as to suggest old times. The bulk of the Ducks seen were Scaup, though numbers of Lesser Scaup, Mallards, Pintails, Ruddys, Gadwall, and Hooded Mergansers were noted, as well as scattered troops of Pied-billed Grebes. At least a dozen flocks of Canada Geese were seen in the air during the morning. During the night of the 26th, Loons were heard on the river, and the next day 3 of these rare visitors were seen, together with Hutchins's Geese, Redheads, 3 Canvasback, a few Franklin's Gulls, and about 200 larger Gulls (Ring-billed or Herring).

The period between October 19 and 26 marked the passage of the bulk of the Sparrows. Song Sparrows were again unusually numerous, while Harris's Sparrows, as last year, were uncommonly scarce, a half-dozen birds being seen where normally there should be hundreds. It is interesting to note in this connection that Professor Johnson of Lawrence, Kans., met the species this spring in its usual abundance only 30 miles to the west of this point. (November-December, 1919, Bird-Lore, p. 360.) Most of the other Fringillidæ passed in their usual numbers and on time, though no Clay-coloreds were seen.

A small party of Yellow-legs and a flock of Red-breasted Mergansers were reported on November 1. This is indeed late for Yellow-legs, and Red-breasted Mergansers have been rarely seen here during the past few years.

Greatly to the relief of several residential districts of this city, the immense flocks of Bronzed Grackles left between November 2 and 5. Permission was had from local authorities to use shot-guns within the city against these hordes, and the U. S. District Attorney was appealed to for information regarding the status of the Grackle's protection, all of which resulted in much warfare against the bird and the waste of quantities of ammunition.

On November 5, two Woodcocks were flushed from a small marshy spot in the Blue Valley within the city limits (La Brie). As has been before stated here, this region seems to lie practically outside the range of this bird. On the 16th, a Red-shafted Flicker was seen, the first local record of this species since 1916. Myrtle Warblers, Cedar Waxwings, and Crossbills seen on this date will doubtless remain all winter, as their food is abundant. On the 27th, the van of the wintering Rough-legs and Marsh Hawks was noted, though these birds had probably been in the region ten days or more. This day also marked the finding of many Crow pellets recently cast on the fresh snow. Four Green-winged Teal were found feeding in a sheltered slough near the mouth of the Blue River on this cold day.

A cold rain froze as it fell on November 28 forming a thick sheet of ice, and making conditions for bird-life as unfavorable as could be imagined. A protracted period of unseasonable cold has continued to date (December 9), accompanied by high wind and temperature below zero, and the

birds have without doubt suffered greatly. Fortunately there is a most unusual crop of sunflower and weed seeds available to tide over the hard times. Despite the adverse conditions, 41 species were noted on December 7, which augurs well for the Christmas census.

It is regretted that an error crept into the writer's last letter to 'The Season' (November–December BIRD-LORE). Reference was there made to the local rarity of the Yellow-billed Cuckoo, when the Black-billed was meant—an unaccountable slip of the pen.—HARRY HARRIS, *Kansas City, Mo.*

DENVER REGION.—It would be exceedingly interesting to know the causes of the Bohemian Waxwing's irregular visitations. This species has been in the neighborhood of Denver at least three times this fall, on one of the occasions being seen as a large flock in one of our parks. This makes its third consecutive fall-winter visit, something unprecedented in the bird-records of Denver. If cold weather drives this species south, it certainly has an excuse for being here now, since Denver has had five spells of zero, or near-zero, weather since the first of November.

Juncos may be expected in this region any time after September 14, the Grey-headed coming first, Shufeldt's next, and *montanus* or the Pink-sided, third, while the Slate-colored or the White-winged are very uncertain in their visits here, though the first was seen here in the winter of 1917 and again in the winter of 1918. The first Juncos (sp.?) were noticed hereabouts on October 19, though the writer is confident that he saw some Juncos along the Platte River, west of Denver, about October 1, but the glimpse was so fleeting that identification was not definite.

The small flock of Crossbills (*L. c. stricklandi*) reported in the last regional notes lingered about Denver until November 13, but have not since been seen. On October 26, two pairs of Bufflehead Ducks were seen in Washington Park lake. This is the first record (coming under the writer's notice) of this species in Denver, though it is a fairly common migrant throughout the state. It is always a pleasure and a satisfaction to have other wild Ducks visit the city, which was the case when three Lesser Scaup Ducks and a considerable flock of Redheads were seen in the same park.

One can expect, at this season of the year, to find certain birds almost any day in this vicinity, i. e., the Hairy Woodpecker, the Sharp-shinned Hawk, and Townsend's Solitaire, yet they are very irregular in their visits. A single Solitaire was seen on November 17, a Sharp-shinned Hawk appeared in my yard on November 15, and the Hairy Woodpecker was noticed for the first time this fall on November 14.

There are several species which seldom penetrate the city beyond its outermost boundaries. Thus, the American Rough-legged Hawk is not infrequently seen in the outer zone of the suburbs in the wintertime, yet this year, to wit on November 10, one was seen on the Country Club grounds at a spot well within the city, and the writer was dumbfounded to detect, within a couple of blocks of the same place, two Clark's Crows on December 7, which makes its first record within Denver. It is, in the writer's experience, very exceptional to see this Crow in Colorado, far from the foothills or mountains. Perhaps the same conditions which have caused the early appearance this year of the Tree Sparrow and the reappearance of the Bohemian Waxwing, caused these two Crows to wander so far afield.

Viewing the past two months as a whole, the impression given to the writer is that of a period rather quiet in its ordinary bird-life, yet sprinkled here and there with some very unusual and interesting observations. The absence of Robins, and Meadowlarks stands out in sharp contrast to the other uncommon or unexpected visitors.—W. H. BERGTOLD, *Denver, Colo.*

Book News and Reviews

ANNUAL REPORT OF THE BUREAU OF BIOLOGICAL SURVEY. 8vo. 24 pages. Washington, Sept. 4, 1919.

Both the extent and variety of the operations of the Biological Survey are shown in Mr. Nelson's summary of its work for the year ending June 30, 1919. Nearly one-half of this document is devoted to a record of the destruction of mammals injurious to man's interest and which evidently must give way before the inexorable demands of civilization. Certain birds also fall under the ban, but Science should hold the scales with the stern impartiality of Justice, and a verdict in the birds' favor cannot always be expected.

The Division of Biological Investigations has continued its work on the distribution and migration of birds, its files now containing no less than 1,350,000 reference cards, the breeding areas of North American wild fowl have been investigated, the wild life of National parks studied, and biological surveys have been prosecuted in Wisconsin, Montana, Florida, Washington, and North Dakota. From information furnished by the Bureau we learn that in Wisconsin the State Geological and Natural History Survey is coöperating with the United States Department of Agriculture in the work, which is in charge of Dr. Hartley H. T. Jackson for the Department of Agriculture, and Prof. George Wagner, of the University of Wisconsin, for the state of Wisconsin. Work was begun May 15 and continued until September 20. The principal field of coöperation was the northwestern part of the state, special attention being devoted to the Apostle Islands in Lake Superior. Mr. Harry H. Sheldon, for the Biological Survey, and Mr. Arthur J. Poole, for the Wisconsin Survey, assisted throughout the season.

In Montana, Mr. Marcus A. Hanna, assisted by Mr. Harry Malleis, worked the valley of the Missouri and the bordering plains and mountains from the mouth of Milk River westward, under the general direction of Mr. Edward A. Preble. The Little Rockies, Moccasin Mountains, Big and Little Belt Mountains, and Castle Mountains were visited during the latter part of the summer. Victor N. Householder was a member of the party during the early part of the season.

The biological survey of Florida was continued by Mr. Arthur H. Howell. Field studies were carried on during March and April over a large part of Lee County and in the region around Lake Okeechobee. The collections in the Florida State Museum were examined and the specimens carefully identified. A collection of bird records from Florida, both published and unpublished, shows approximately 390 species and subspecies recorded from the state.

Coöperating at different times with the Biological Survey in field-work in the state of Washington were the following: Prof. William T. Shaw, State College of Washington, Pullman; Prof. H. S. Brode, Whitman College, Walla Walla; Prof. J. W. Hungate, State Normal School, Cheney; Prof. J. B. Flett, National Park Service, Longmire; Mr. William L. Finley and Mrs. Finley, Portland, Ore.; and Stanton Warburton, Jr., of Tacoma. The Biological Survey was represented for a part of the time by Mr. Stanley G. Jewett, Pendleton, Ore, and throughout the season by Mr. George G. Cantwell, Puyallup, Wash., and Dr. Walter P. Taylor, of the Biological Survey, the last named in charge of the work. Investigations were made in the Blue Mountains area of extreme southeastern Washington, in which occurs an unusual mixture of Rocky Mountain and Cascade Mountain types, and in Mount Rainier National Park, in connection with which the circuit of Mount Rainier was made for the first time, so far as known, by any vertebrate zoölogical expedition.

In North Dakota Mr. Vernon Bailey

worked through September and October to get data on the hibernation of mammals and on the stores of food laid up for winter by nonhibernating species. He has returned with many valuable notes to be added to his report on the mammals of the state, and with an interesting collection of live rodents for study of habits in captivity.

THE BOOK OF A NATURALIST. By W. H. HUDSON. George H. Doran Co., New York. 8vo. iii+360 pages.

Sundry essays on varying aspects of nature and animal life, contributed by Mr. Hudson to half a dozen periodicals, together with several before unpublished ones, are included in this volume.

Hudson may be accorded a high place in the small group of what Burroughs has termed 'literary naturalists.' To power of observation he adds a mind keenly responsive to the influences of nature and to them both, the gift of expression.

The last is by far the most uncommon. In a greater or lesser degree all mankind is affected by natural phenomena, but how few can give adequate expression to their emotions!

While these essays are based mainly on observations and experiences in England, it is interesting to observe how frequently their author harks back to the "far away and long ago" of his youth in Argentina. Birds, ants, frogs, toads, snakes, bats, and people are his subjects, and whether or not what he writes is interesting in itself, it is all made readable through the side-lights of seasoned experience and by the art of the writer.—F. M. C.

BIRDS OF EASTERN CANADA. By P. A. TAVERNER. Memoir 104, Geological Survey of Canada, Ottawa, 1919. 8vo. iii+221 pages text; 50 colored plates.

This is a practical manual of east Canadian bird-life, with keys to families, descriptions of species, emphasizing their distinctive characters and field-marks; nesting sites, general distribution, haunts, habits, and economic status. There are also sections on 'Geographical Distribution,' 'Migration,' 'Means of Attracting Birds' and 'Ornithological Literature.'

Mr. Taverner's experience in field and study, combined with an ability to think for himself, gives to his work an originality in thought and expression which places it above the plane of mere compilation. He has a clear conception of the wants of his audience and supplies them in a manner which cannot fail to make this book of real practical value to the Canadian public. We cannot but regret, however, that the paragraph on 'Distribution' does not include more details on the birds' seasonal status in eastern Canada, and that migration dates are practically wanting.

The fifty colored plates, each containing two pictures, introduce to us a new bird artist—Mr. F. C. Hennessey—whose work shows that he possesses an exceptional gift for the portrayal of birds. We hope that in developing it he will remember that a poorly drawn bird may spoil a good landscape, just as effectively as a poorly painted landscape may mar a good bird.—F. M. C.

THE ORNITHOLOGY OF CHESTER COUNTY, PENNSYLVANIA. By FRANKLIN LORENZO BURNS. Richard C. Badger, The Gorham Press, Boston. 12mo. 122 pages; 21 illustrations.

Chester County, Pa., is ornithologically historic ground. Here, as Mr. Burns tells us, Audubon made some of his earlier observations on American birds, and here Say, John K. Townsend, Cassin, and more than a score of latter-day ornithologists have studied afield. Mr. Burns, himself, has a practically continuous record of thirty-five years' observation and is thereby eminently fitted to act as the ornithological historian of this exceptionally well-worked region. His fully annotated list containing breeding, as well as migration dates, enumerates 247 species and subspecies which he classifies as follows:

Resident	26
Summer Resident	72
Winter Visitant	26
Transient Visitant	75
Straggler	42
Extirpated	6

—F. M. C.

Bird-Lore

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Bird-Lore's Motto:
A Bird in the Bush Is Worth Two in the Hand

THE ANNUAL CONGRESS of the American Ornithologists' Union, held at the American Museum of Natural History, November 11–14 last, was marked not only by a large attendance and the election of some 250 Associate Members, but also by the excellence of its scientific program.

It seems clear that if the Union is to give due consideration to the communications which are presented at its annual meetings, it must either prolong its sessions or hold sectional meetings. The latter seems to us to be the more desirable plan. The more popular papers might be presented before, let us say, a Biographic Section, systematic papers before a Taxonomic Section, and papers of general interest before a joint session. If one will visit the laboratories of the bird department in the Museum, where the meetings are being held, he will probably discover there those members of the Union who are especially interested in systematic ornithology, who have, in effect, already formed a Taxonomic Section where they may examine specimens and discuss, informally, technical questions in which the general public has little or no interest. For this reason, as well as for lack of time, such discussion has been largely barred at A.O.U. meetings, and the more technical phases of ornithology have consequently not received the attention due them at these annual gatherings of representative ornithologists. For example, Dr. Witmer Stone's paper, at the recent Congress, on 'The Use and Abuse of the Genus' merited far more consideration than of necessity could be given it, and the worth of a paper of this character can be determined far better by debate than by publication alone. We hope therefore that this question of sectional meetings will receive due consideration before the Washington Congress of 1920 convenes.

'COUNTRY LIFE' for December gives the place of honor to an admirable article on 'Christmas Birds' by the Editor of BIRD-LORE's School Department. We wish that we could commend the illustrations as highly as we can the text, but, in truth, we do not recall any bird illustrations in a reputable publication which contain so many and such inexcusable inaccuracies.

The layman will hunt in vain for an artist's name, but to the initiated these seven full-page plates are evidently cut-out photographs of mounted birds which have been grouped in what are believed to be natural associations, colored by hand, and about, below, before, and behind them are painted such perches, surroundings, and landscapes as seemed appropriate. The work has been skilfully done, with results which are, in some instances, as superficially pleasing as they are fundamentally erroneous, and hence are as pernicious as the clever type of natural history faking which Mr. Roosevelt so vigorously condemned.

For example, the two Nuthatches are grouped as 'Field Birds,' a Short-eared Owl has sought the seclusion of a pine tree with a Screech Owl and Great Horned Owl for companions, and a Horned Lark perches on the limb of an oak, grasping its perch in a way no bird of its kind ever did or could. The retouching of the photographs has produced numerous errors in form and color—the Flicker, for example, has no trace of yellow in its quills, the Meadowlark has a yellow-striped head, and the Red Crossbill is about the color of a Hermit Thrush; while, without going into further detail, nearly every bird in the series is a libel on the appearance of the species in life.

The Audubon Societies

SCHOOL DEPARTMENT

Edited by A. A. ALLEN, Ph.D.

Address all communications relative to the work of this department to the Editor, Cornell University, Ithaca, N. Y.

COÖPERATION

One of the greatest lessons learned from the World War was the value of coöperation. In her manifold, well-laid schemes, Germany did not allow for it, the Allies discovered its use very early, the United States entered the war with it uppermost in her mind, and the world was saved. The inspiration and the power of working together, utilizing the discoveries of the others and benefiting by their mistakes, made the armies of each of the Allies far more powerful than they could have been had they fought side by side without the spirit of coöperation. Individual honors were very often sacrificed and subservient positions were taken by one or another of the Allies that they might work together as a unit and defeat the enemy. There was one great task to be accomplished, and it mattered not to whom the momentary glory fell. Now that the war is over and the history is being written, it is perfectly evident that everyone is to receive the honor that is his due, and the glory of self-sacrifice for the sake of coöperation is no less than that of leadership.

If anything is ever gained from war and bloodshed it is by reason of the great truths that are exposed. The only legitimate gain to the individual that can be obtained from the slaughter of his fellowman is by the application to his own life of these truths or principles. So if we would gain something from the great conflict, we should acquire the spirit of coöperation and apply it in our teaching of little children, for the teaching of the rising generation will have more effect upon the world a hundred years hence than any conflict, however great. It is to the teachers that the world must look for progress, and the teachers must, therefore, look well to the lessons that the great war has taught. If there is any place where coöperation is imperative, it is in the teaching profession where there are so many great principles to be inculcated through so many different channels.

Perhaps no greater opportunity has ever been offered to teachers for coöperation and for coördination than the movement for the conservation of wild life, which finds its chief expression in bird-study. This conservation movement involves so many of the principles that we would give to children to make them better men and women that it is little wonder that every progressive organization is behind it and that funds are always forthcoming for its support. Chambers of commerce, civic improvement societies, the Boy Scouts, the Camp Fire Girls, the Red Cross, and numerous other organizations always

coöperate with the Audubon Societies in this work, and teachers will always find them willing to help in any undertaking which has for its object the making of better men and women.

We are printing at the end of this editorial a little story that has been contributed by the Red Cross, called 'Feathered Allies,' and with it a photograph of some Junior Red Cross members who have been building bird-houses. The remainder of this department of BIRD-LORE will then be devoted to a discussion of "How to Build and Where to Place Bird-houses," for the building of bird-houses offers one of the best opportunities for coöperation between teachers and parents, the school and the community, that can be hoped for. It likewise offers a splendid opportunity for coördination of school-work, reading, writing, arithmetic, drawing, manual training, etc. In some places entire communities have received their whole animus for the protection of wild life through the institution of a 'bird-house competition' by one of the teachers of the local school. The local stores are always ready to supply prizes and to display the houses and posters that have been made by the children if enough general interest is aroused. The local press, also, will always be ready to print announcements, list prizes, and announce prize-winners, and such publicity always gives life to the competitions. Lastly, every effort should be made to interest a large and representative group of people and to get all to coöperate, and the greater the publicity given to the proposed competition, the more successful it will be and the more good it will do. One should always bear in mind, however, that such a competition should not have as its sole object the *number* of bird-houses constructed. Accuracy of construction, careful workmanship, and, most important of all, thought for the birds should be emphasized. The underlying motive of doing for others, of working for the birds and not for the prizes, should be conspicuous at all times, for it is from this that the greatest good results.

Many competitions end with the completion and exhibition of the bird-houses, but this is a mistake. It is just as important that a bird-house be properly placed as that it be properly constructed. A child that has worked faithfully in building a bird-house deserves to have the pleasure of seeing it occupied. Moreover, it is the response that the birds make to his efforts toward helping them that will fix his interest permanently in the work of conservation. It is, therefore, highly important that no effort be spared to encourage the birds to occupy the houses. The award of prizes may be conditioned upon the proper placing of the houses or a second competition may be started based upon the greatest number occupied or the best written account of what transpires at the house. There are here again numerous ways of coördinating the work with other lessons.

FEATHERED ALLIES

With the first call for fighters there also came a call for 'messengers,' and so it was that our faithful little allies—soft-feathered Homing Pigeons were taken into service. Today we may see many of them returning from service overseas, bearing that same mark of honor which distinguishes our men-heroes, for each bird now wears around its leg a gold band for every wound received.

The Navy has a number of these brave birds which suffered wounds, but which have been tenderly nursed back to health and strength and are now finding a life of comfort in the country they so faithfully served.

Truly these birds have proved faithful allies to America. But the Homing Pigeons alone do not constitute this allied force. The little feathered sharers

THESE JUNIORS OF HIGH BRIDGE, N. J., HAVE NOT FORGOTTEN THE NEEDS OF OUR FEATHERED ALLIES
Photographed by the American Red Cross

of our everyday life, the chattering little birds of our busy cities, and the sweet-throated songsters of the woodland places have served us at home as faithfully as those other strong-winged Pigeons served us overseas.

The 'home-force' birds, as we might call them, have hunted out the poisonous little insects that would destroy our valued trees; they have served us in all the ways that birds are known to serve our world of living things; and more than this, they have cheered us with their trills and songs, and even their noisy morning chatter.

Many of us are heedless of the bird-needs of these feathered folk, but some of us have remembered. Among those who have remembered materially are the Juniors of the American Red Cross. With their strong spirit of service for all who need, they have not forgotten the birds. And so, through all parts of

our country, Junior boys have made little homes in which some of our bird allies might find shelter from the cold and heavy winter snows and in which others might build their nests when they come back in the spring.

Were you to pass through the early morning quiet of a snow-covered wood, you might see through the little wood-cut window of a bird-house snugly set in the tree branches, the bright, bead-like eye of a tiny dweller of the wood, warm and comfortable in the new home that some thoughtful Junior had built. And in the echo of the chatter and trills coming from the little inhabitants, the Juniors discern a clear "Thank you!"

But their thanks come not in songs alone, for all day long the Woodpeckers, Nuthatches, and Chickadees that have roosted in the boxes search out and destroy the hibernating insects that are waiting only for spring to start them destroying the foliage and undermining the bark of the trees. And then when spring comes these winter birds will be joined by other songsters that will make their homes in the boxes—the Wrens, the Bluebirds, and the Tree Swallows whose insatiable young require thousands of insects to satisfy them. Truly our Juniors of the American Red Cross have performed a National service in building these homes for the birds.—Contributed by the American Red Cross.

HOW TO BUILD BIRD-HOUSES

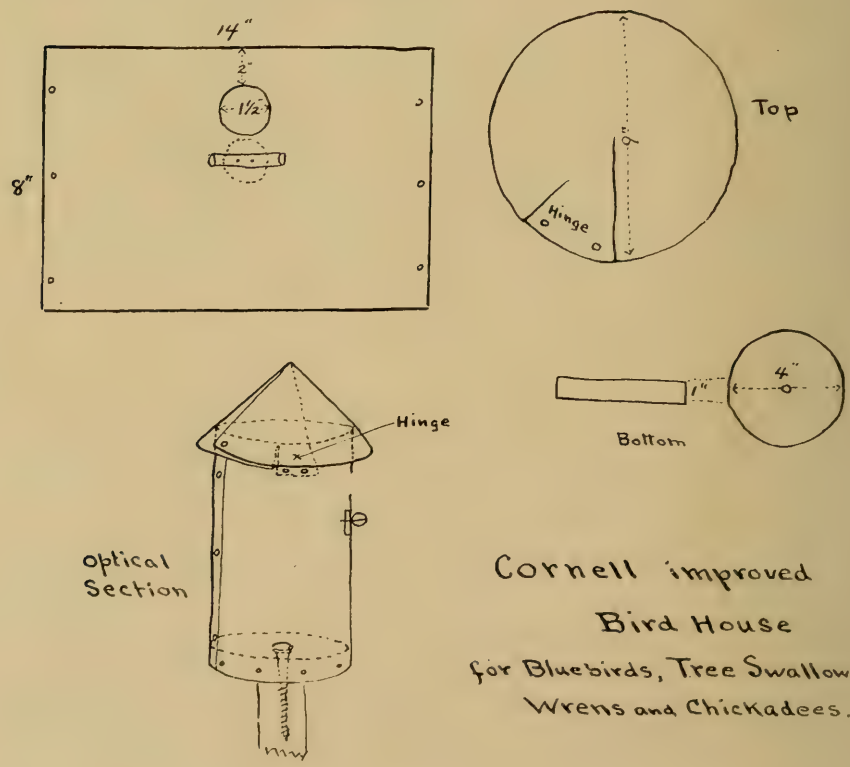
The making of bird-houses is an old, old story, but, like many other classic tales, it will bear re-telling. The original idea was simple enough, but of recent years it has been encumbered by so many suggestions that people hesitate to undertake what is really an easy task, for the more simple the box, the more natural will it appear and the more attractive will it be to the birds. The fanciful doll-houses, with several compartments, chimneys, frescoes and verandas, while occasionally used by House Sparrows or Purple Martins, are usually very ineffective, and, of course, entirely out of place. The more it resembles the old hollow limb in the orchard or the hole in the fence-post, the more pleasing to the eye of the bird will it be.

There are over fifty species of birds in the United States and Canada which utilize holes in trees for nesting, including many of the most useful. The borer-destroying Woodpeckers, the larvæ-destroying Nuthatches, the egg-destroying Chickadees, the mosquito-destroying Tree Swallows—all build in holes in trees and may be attracted to nesting-boxes. In these days of scientific forestry, when every dead tree is condemned and when every dead branch is lopped off by the 'tree doctor,' their natural nesting-sites are rapidly disappearing and their numbers must necessarily decrease unless they are provided with artificial nesting-places. It is a wise timber-owner who puts up at least one nesting-box in the place of every dead tree which he removes. The Chickadees and Woodpeckers that are with us in winter, and the Wrens and Bluebirds that return in the spring, will move on unless they find plenty of nesting-sites.

Of the hole-nesting birds, a comparatively small proportion have yet learned to accept the artificial nesting-site, only nine species taking them regularly and nineteen more utilizing them occasionally. It is to be expected, however, that eventually all the species will learn to adapt themselves, and, perhaps, even others will so modify their present nesting habits as to accept the artificial structures. This proved to be the case in the celebrated experiments of von Berlepsch, in Germany, where out of 1,000 nesting-boxes placed on his estate, birds gradually were induced to occupy over 900.

The species which regularly use nesting-boxes are as follows: House Wren (and all its subspecies), Bluebird (eastern and western), Chickadee (northern and southern subspecies), Purple Martin, Tree Swallow, Flicker, Violet-green Swallow, House Finch, Bewick's Wren, House Sparrow, and Starling.

The species which occasionally use nesting-boxes are as follows: White-breasted and Red-breasted Nuthatches, Downy, Hairy, and Red-headed Woodpeckers, Tufted Titmouse, Carolina Wren, Crested Flycatcher, Screech, Saw-whet, and Barn Owls, Sparrow Hawk, Wood Duck, Song Sparrow (rarely), and Dipper. The species using covered shelves or shelters, open at the sides, are Robin, Phœbe, and Barn Swallow.



MATERIALS

The best materials to select in building bird-houses are weathered boards, rustic cedar, slabs of wood with the bark adhering, or asphaltum roofing-paper. Smoothly planed boards and paint should be avoided except on such houses as are intended more for ornament than use. Gourds, when obtainable, can be made very acceptable by cutting a hole of the proper size in one side, cleaning them out and drilling a small hole in the bottom to drain off any rain that may beat in. Tin cans may be used but are usually unsightly and become excessively hot in the sun, unless covered with bark. One end should be replaced by a block of wood and the opening of the proper size should be made toward one edge of this or in one side of the can. Green bark of chestnut or other trees can sometimes be obtained and nailed into the form of a hollow cylinder, but such boxes are usually not durable. A hollow limb, a deserted woodpecker's nest, or a block of wood hollowed out in the form of a woodpecker's nest are all good devices, but usually it is easier to cut rough boards into proper lengths and nail them together securely in the form of a small box. Sometimes boxes of the proper size, such as chalk-boxes or starch-boxes, can be found ready made and require only some reinforcement.

If one plans to make a great many of standard size, heavy asphaltum roofing-paper lends itself most readily at a minimum of expense. A working drawing is here given of the Cornell improved bird-house for birds up to the size of Bluebirds. These can be made in numbers for a maximum cost of 10 cents each, and have the advantage of being as easily made by girls as by boys. The only tools that are necessary are a pair of heavy scissors or a knife for cutting the paper, an awl for punching holes for the rivets, a tack-hammer and a piece of iron pipe or a window-weight against which to flatten the rivets. The *split* rivets used to fasten the edges together can be purchased at any hardware store. If a great many boxes are to be built, it is wise to have a short piece of 1½ inch pipe sharpened to serve as a punch for cutting the hole, but otherwise this can be done with the knife. The blocks of wood, 4 inches in diameter, can be cut from a log of that size or made in numbers in the manual training department or the local carpenter shop on the jig-saw.

THE CORNELL IMPROVED BIRD-HOUSE, MADE OF ROOFING-PAPER AT A COST OF ABOUT TLN CENTS EACH

The first exercise in the school-room should be to draw the pattern, cut it out, and pin it together. The best pattern should then be taken to mark the roofing paper. In putting together the patterns, one soon learns the order in which the various steps should be taken. Thus the perch and the roof must be fastened to the piece forming the sides before it is fastened into cylinder form. The circular piece cut out for the door may well be used to reinforce the front on the inside where the perch is nailed in place. The very last step is the nailing of the completed house to its bottom, and this should not be done until the bottom is fastened by screws or face plate to the top of the post or pipe where the bird-house is to be permanently placed. It will be seen from this that this house is intended only for use on top of a post, and the reason for this will be stated later on.

CORRECTLY BUILT BIRD-HOUSES
These may be bought from the manufacturers or they may be made

MEASUREMENTS

Whatever material is used, the exact size of the box is not of great importance except that it should not be so large as to waste material, nor yet so small as to give insufficient room for the nest. A box should never be smaller than 3½ x 3½ x 6 inches inside measurements, and it is better to make it somewhat larger, even for Wrens. In making bird-houses for the first time, it would be well to make them of medium size so that they will be acceptable to the greatest variety of birds. In this way the chances of attracting them are increased. Such a box would measure about 4 x 4 x 9 inches inside with the long axis vertical. If special effort is to be made to attract Flickers, Screech Owls, or Sparrow Hawks, boxes 6½ x 6½ x 24 inches should be made. If Purple Martins are desired, a house of from ten to thirty compartments should be constructed, with each compartment 6 to 8 inches square. Rows of gourds tied to cross-pieces and raised on poles will likewise attract Martins and are extensively used in the South. If one wishes to build a large Martin-house, explicit directions and working drawings can be obtained from Farmers' Bulletin No. 609, of the U. S. Department of Agriculture, entitled 'Bird-Houses and How to Build Them.' All other bird-houses should be built with only one compartment.

OPENINGS

The *size* and *position* of the opening are much more important than the exact size of the box. A round hole is best, and, except in Martin-houses, should be cut above the middle line on one side and preferably about 2 inches from the top. All hole-nesting birds, except the Martins, wish to be out of sight of the entrance while incubating. There should never be more than one entrance to the box, but if the box is very tightly built, a ¼-inch hole may be drilled just beneath the roof for ventilation and another through the floor for drainage. These are unnecessary however, and in natural nesting cavities, of course, never occur. If there are not many House Sparrows or Starlings about, it is best to make the openings in all the boxes, except those for the largest birds, 1½ inches in diameter. This will admit birds up to the size of the Bluebird and the Tree Swallow, and is not large enough to be objectionable to the Wrens and the Chickadees. If Sparrows are numerous, one can keep them out of the boxes and still admit the smaller species by making the opening 1¼ inches in diameter. One can keep out the Sparrows until the Bluebirds arrive by having a removable piece with a small opening fastened over the 1½-inch hole. When the Bluebirds are seen trying to get in, this piece can be removed, and then the Bluebirds will have an even chance with the Sparrows.

INCORRECTLY BUILT BIRD-HOUSES
One has the opening too low, in the other it is too large

If one wishes to build houses for particular birds, the following table of proper diameters for the openings, as given by H. K. Job, will be found valuable:

(*a*) 1⅛ inches: House Wren, Bewick's Wren, Carolina Wren, Chickadee.

(*b*) 1¼ inches: White-breasted Nuthatch, Tufted Titmouse.

(*c*) 1½ to 1⅝ inches: Bluebird, Downy Woodpecker, Crested Flycatcher, Tree Swallow, Violet-green Swallow.

(*d*) 1¾ to 2 inches: Red-headed and Hairy Woodpeckers.

(*e*) 2½ inches: Flicker, Saw-whet Owl, Purple Martin.

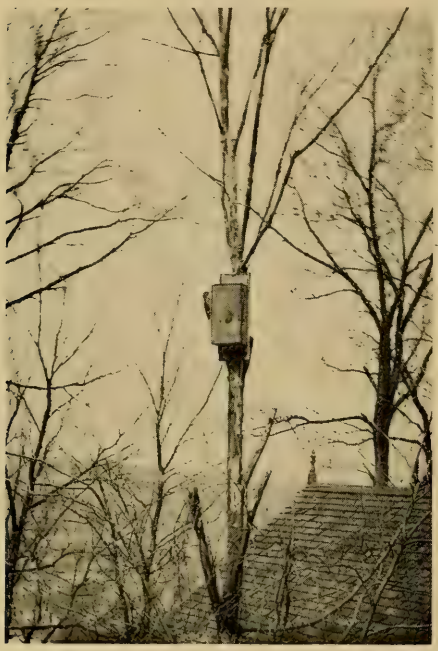
(*f*) 3 inches: Screech Owl, Sparrow Hawk.

(*g*) 4½ inches: Barn Owl, Wood Duck.

A HOME-MADE MARTIN-HOUSE AND A MARTIN DRIVING AWAY AN ENGLISH SPARROW

NESTING MATERIAL

No nesting material in the form of straws, feathers, or sticks should be placed in the box, though if they are placed abundantly in the vicinity they may encourage nesting. If a prospective tenant find nesting material in the box, he will usually consider it already occupied and move on. In Flicker and other Woodpecker boxes, however, there should be placed in the bottom a couple of inches of ground cork or coarse sawdust, mixed with a little earth, because the Woodpeckers build no nests and must have something to keep the eggs from rolling about. A layer of sawdust will do no harm in any other box but is not necessary.



A PROPERLY PLACED FLICKER-BOX
The branches have been cut away from around it
Photographed by L. A. Hausman

AN ORNAMENTAL MARTIN-HOUSE
Martin-houses should be on poles at least 17 feet high and away from trees

PLACING THE BOX

Quite as important as the proper construction of the bird-house is the selection of the place to put it. It is possible to put up ten or fifteen boxes and have nothing but House Sparrows nesting in them, but, if properly placed, they would be occupied by Wrens, Chickadees, Swallows, or Bluebirds. If several boxes are put up, they should be at least 25 feet apart and, preferably, farther, or constant fighting will usually result until one of the tenants is evicted. If

one examines the natural nesting-places of any of these hole-nesting birds, he will find that, with few exceptions, they are in open places in bright sunlight or light shade, and seldom among thick branches of a tree or in dense shade. The best place for the box, therefore, is on a pole, 5 to 15 feet from the ground, in an open space or at the edge of trees facing the open. An iron pipe, an inch or more in diameter and 8 feet long, set in the ground 2 feet, makes an ideal location for a box, as it likewise gives protection from cats and squirrels. It is for this reason that the Cornell bird-house is designed to be put up in no other way. A post on the porch or the unshaded side of the house will also serve if the box is turned to face outward. The trunk of a large tree, several feet below the first branches, a telegraph pole, or a high fence-post are other places which will prove suitable, although perhaps not quite so satisfactory as the separate post. An excellent place for the large Flicker or Sparrow Hawk box is the top of a dead tree, particularly if the smaller branches are cut away from around the box. Occasionally a Wren or a Nuthatch will use a box placed in the shade among the branches of a tree, but such places, while appealing strongly to most people as highly desirable, should be shunned. House Sparrows are the only birds that will regularly use boxes when so placed.

PROPERLY PLACED BIRD-BOXES
There are many trees but the houses are placed in the open. The one in the foreground was occupied by Wrens; that in the background by Crested Flycatchers.

CARE OF THE BOX

If a box is well made, once in position, it need never be removed, though it will probably last longer if taken inside during the winter. Frail or fancy boxes

should be taken in each fall and replaced in March. Cleaning a box is not necessary under ordinary circumstances, as the birds will do their own renovating, but it is well to have the top or one side hinged, so that one can get at the inside if necessary, to throw out the nests of Sparrows, or squirrels, or mice, or hornets that sometimes usurp the box before the birds arrive. Aside from this there is little need of care, and at the end of the season the old nests can be thrown out or left in, it making little difference to the birds when they return the following spring. The lice which often infest the nests of Wrens are harmless and die soon after the young leave. If anything is to be done, the nests should be sprinkled with insect powder while still occupied.

THEIR FIRST BIRD-HOUSES. WHICH ONES ARE NOT CORRECTLY BUILT?
Photographed by Mrs. G. C. Hulvey

TIME TO PUT UP BOXES

The boxes should be in place as early in the spring as possible, especially those intended for Nuthatches and Chickadees that are with us throughout the winter. Although they do not begin nesting until April, Chickadees often commence excavating their nesting cavities in February, and it is probable that they have selected their nesting-sites by this time. Boxes put up after March 1, and even as late as May 1, are often occupied the same year, but the chances are much better if they are put up early. Anyone planning a bird-house competition in the schools should start immediately, so that the boxes will be ready by April 1.

QUESTIONS

1. What birds utilize nest-boxes?
2. Give three reasons for putting up bird-houses?
3. Give three reasons why it is advisable to have school children build them?
4. What advantages can be derived from coördinating school-work?
5. What advantages are to be derived from coöperation between the teachers of the different grades?
6. What advantages are to be derived from coöperation between teachers and parents?

7. How would you go about inaugurating a 'Bird-House Contest?' What are the advantages of publicity?
8. What are the most important points to emphasize in such a competition?
9. Where should the opening in a bird-house be made and how large should it be?
10. What are the best materials to use in building bird-houses and how large should the houses be?
11. Should any bird-house be built with more than one compartment?
12. Is the placing of bird-houses important, and what is the best method of placing them?

SCHOOL ITEMS

HOW WE BECAME JUNIOR NATURALISTS

The idea that the power to create belongs only to a favored few of a community has swayed public opinion in the United States for a century or more. My experience as a teacher of the masses has proved to me that every child is endowed with the gift when he enters this life. His failure to develop the power for constructive work is the fault of those who have his education in charge.

Anyone who doubts this statement should make a study of the growth of the ancient peoples. He will find that all members of a tribe had the power to materialize, in one form or another, beautiful, rhythmic, harmonious thoughts which exist for us to enjoy today, and these antique works of art are more valued than are the efforts of the artists of the present time. But one is not obliged to delve into ancient history for substantiation of this truth, because near and intimate to our own lives is the work of the tribes of Indians of this continent.

The success of the expressions of these arts can be traced to the cultivation of the perceptive faculties that gained for the people a clear knowledge of the life about them, especially of nature. Through the study of nature came knowledge of the laws of growth from which they deduced the underlying principles for their work in design. Yet these developments would have been of little value if the spirit had not been trained to work irrespective of time and labor. All beautiful work has depended for its existence upon this last quality in the artist or artisan. Until the organizations for the education of the public will recognize the necessity of training the spirit as well as the intellect, the educational work of the public schools will deprive the children of the development of their full inheritance.

Five years ago, when we began in this city the work of learning to write and draw, there were no organizations for the systematic growth of the various arts of expression in our public schools. Our schools were as good as the average city schools, but I failed to find in any system with which I could come in touch a provision for the healthy growth of the children of a class. The little ones of our country had become creatures of circumstances. For years, ideas and details had been influencing the educators in charge instead of these directors holding to established principles for teaching and religiously carrying them out.

Our first struggle was with the art of penmanship. We succeeded in following closely the fundamental principles for growing power in the expression of the art, and when the practicing of the exercises began to demand quantities of themes, we found it necessary to hunt for subject matter. The struggle to gain control in writing was slight compared with that required to learn to express a thought orally in the classes of the grades above the second. Many and varied were the means employed to produce life in our efforts at conversation.

The school program is so arranged that a supervisor of a subject is allowed not more than twenty minutes with a class each week. But the classes in which the members had practiced faithfully required only two or three minutes to prove their increased power in writing, and all the remaining time was devoted to oral expression.

By slow process the minds of the 1,800 boys and girls were led to think of the beauties of our city. The city had been noted for its natural beauty and the inhabitants have always had to depend upon its natural resources for an existence. Years of selfishness on the part of individuals and corporations, as well as carelessness on the part of the city government, had made a sad inroad toward the destruction of this charming spot when the state came to the rescue and saved the lives of the springs and parks. An opportunity to set the whole community at work to assist the state arose right here in the school system. Through the children all the homes could become familiar with the necessity of caring for the trees and for the birds whose work places them as our first assistants. Without a dissenting voice we decided to seek ways to entice the birds to live among us.

Aids from intellectual sources were not at hand. The season was winter when we began our explorations for knowledge of out-of-door life upon which we were to compare notes when we should meet. We were most fortunate in both conditions, as we were given the chance to find the literature that would help us best and the winter is the time to begin not only the study of the birds but also of the trees, the deciduous ones anyway. It was understood that there would be no time for conversation if the writing was not well practiced. The organization for work expanded to such a degree that the penmanship advanced beyond our expectations and each period together gave a chance for everyone to add something to our knowledge of bird-life.

The interest grew weekly, and the time came when no one wished to be left out of the talk. Now and again one who had been clever at collecting material at the expense of others, and had not entered into the work of observing for himself, would risk giving a description of a bird which he wished named. At first he caused a questioning atmosphere to exist among his hearers, but after a short time the power that comes to those who get their knowledge first-hand discouraged these deceivers and caused them to begin to observe for themselves.

One exercise was to practice the calls and songs of the birds. As yet we have not done great work in this line but we shall. One day a little girl in

a fifth grade class claimed my attention to inform me that she could crow like a rooster. She was given an opportunity to try. Spring had arrived and the windows were open. An evidence that Prudence was a good crower was told through the responses of all the cocks in the vicinity. A fine lesson in concentration occurred immediately, for we gave ourselves up to listening for the crow farthest away. We learned that some of us could detect fainter sounds than others.

Our conversations developed in us love and sympathy for our feathered friends. We gained the knowledge that we must provide homes for them and feeding stations for the winter birds as well as fountains in dry places. Drawing was introduced into all the grades the first year through the industrial problem of making bird-cotes from working drawings and patterns. A thousand houses for Bluebirds, House Wrens, or Chickadees were constructed. About 800 were made according to specifications. Experts in the manual training department reconstructed the 200 failures.

The life of our junior naturalists' societies is assured, for the foundation was constructed through directing the child to search for knowledge and then followed the building of the societies by organizing the work to produce a union of interests which has caused a union of minds. Unconsciously the children have become teachers of the whole community through their discussions outside of school, for everyone is beginning to help. Business, always on the alert, took up the subject. Publishing houses had constant calls for books. Bird-glasses were advertised. All who could afford bought these helpful materials—yes, and those who couldn't afford found a way by doing without some necessary article.

The most delightful of our interesting experiences was our introduction to the Audubon Societies. With very little effort, hundreds of us became members of the junior clubs which entitle us to the bird leaflets and the magazine, BIRD-LORE. This literature of the great ornithologists who sacrifice themselves for the education of the masses enters the homes and is enjoyed by every member of the family. The little children sit and look at the illustrations while the older boys and girls read aloud. These leaflets are doing a great work in the homes of the foreign element. While the contents of these series are planned for the grade classes from the fifth through the grammar grades, we find the fourth grade children enjoying them thoroughly because of the knowledge through observation which they take into the text. Every year finds 500 to 600 new subscribers for the Audubon Societies. We have learned to know that it is a great privilege to study under the directors of these societies who are leading us to realize fully the responsibilities connected with the work of protecting our natural resources.—KATE A. MCCLOSKEY, Supervisor of Industrial Arts, *Saratoga Springs, N.Y.*

BIRD-STUDY IN VIRGINIA

It may be of interest to some of our readers to know about the Junior Audubon Society we had at Timberville, Va., which was organized in January of this year (1919). We all enjoyed it exceedingly, and I am sure that, besides this, it did good in the hearts and lives of the little folk who were members. They learned a great many facts about birds which will never be forgotten and it will be a great pleasure for them to meet with their bird friends year after year. A society of twenty members was formed in my first grade. After we received our literature and had begun working, all the other children in the first grade joined and others came from other grades and asked to join.

Before six weeks had passed, our society numbered 114 members. We held our meetings twice a week. A new bird was taken up at each meeting and studied. We studied forty-eight birds altogether. At every lesson a little review was made of previous lessons. The following outline was used in our notebooks:

1. Name of bird.	3. Nest.	5. Young.
2. Color { male / female	4. Eggs.	6. Food.

At different times in the spring, short programs were prepared, made up of songs, recitations, etc., and given in chapel before the whole school. Sometimes, instead of a regular meeting, we would go for a bird-walk, then within the next day or two, during language period, papers were written telling of the birds we saw. Nearly always they could identify the birds themselves, sometimes I helped them, sometimes my bird-book helped me. One day my primer class was reading when one little six-year-old boy held up his hand and said, "Oh, Mrs. Hulvey, look out there on the post is a Downy Woodpecker." We all went quietly to the windows for fear we would scare him away, and there, only about 10 feet away, was little Downy getting his dinner. We called in the other grades and took turns watching him. At noon there were nearly a hundred children around the post all trying to see where little Downy had been. The day before we had a lesson on the Downy Woodpecker and little Garland recognized him at once by the picture we had used. We had quite a number of songs about different birds that the children took great delight in singing. Old bird-nests were collected and examined.

In the spring nearly one-third of our members made bird-houses which were placed on poles and in the trees. Everyone of us thoroughly enjoyed watching our bird friends making their new homes and caring for their young.

This session I have organized a Society of twenty-five members in my second grade in the Denton Primary School, Denton, Md., and hope by spring to have many more children have a keen interest and true love for their little brothers in the air.—TENNEY CLINE HULVEY, *Denton, Md.*

[Mrs. Hulvey is to be congratulated upon her success in forming Junior Audubon Societies. One can be sure that she feels well repaid for the effort which she puts forth by the response she gets from the children under her charge. The teacher who has not entered this field does not know how much easier it makes all teaching.—A. A. A.]

The Audubon Societies

EXECUTIVE DEPARTMENT

Edited by T. GILBERT PEARSON, Secretary

Address all correspondence, and send all remittances for dues and contributions, to the National Association of Audubon Societies, 1974 Broadway, New York City.
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Any person, club, school or company in sympathy with the objects of this Association may become a member of it, and all are welcome.

Classes of Membership in the National Association of Audubon Societies for the Protection of Wild Birds and Animals:

$5 annually pays for a Sustaining Membership
$100 paid at one time constitutes a Life Membership
$1,000 constitutes a person a Patron
$5,000 constitutes a person a Founder
$25,000 constitutes a person a Benefactor

FORM OF BEQUEST:—I do hereby give and bequeath to the National Association of Audubon Societies for the Protection of Wild Birds and Animals (Incorporated), of the City of New York.

THE KLAMATH LAKE SITUATION

While those friends of wild-life protection who have read William L. Finley's report on Klamath and Malheur Lakes Bird Reservations in the last issue of BIRD-LORE are, in a measure, familiar with the desperate straits in which these two reservations stand today, further remarks may be in order.

Lower Klamath, which comprises the main body of Klamath Lake Reservation, had a large bordering area of lands that were swamp, and a considerable sentiment arose in favor of making these lands suitable for agricultural operations. Some years ago the Government Reclamation Service undertook to do this by making a series of canals and ditches. After expending $283,225 and overcoming only a small percentage of the difficulties to be met with, the plan seems to have been abandoned. The Lake was made a bird reservation and hundreds of thousands of water-birds, including Ducks, Geese, White Pelicans, Caspian Terns, Gulls, Grebes and Coots, continued to make of this area of 60 or more square miles, one vast nursery for bird-life. But those who wanted the lake drained continued their efforts, with the result that the legislatures of the states of California and Oregon, in which the lake lies, recently passed laws for the purpose of especially encouraging the drainage of the lake, particularly the swampy margins, and ceding such rights as they might have to the United States Government.

An Oregon company, known as the Klamath Draining District, took over 20,000 acres of lands lying in the state of Oregon for a consideration, and up to date have made their first two payments on the land. It was evidently the hope of the Government officials that companies or individuals might take up the California territory.

The lake is fed by a stream that runs in from Klamath River on the north. A railroad, running from the main line of the Southern Pacific Railroad to Klamath Falls, Ore., runs across the marshes above Upper Klamath, and where it crosses the stream that feeds the lake, a gate has been put in. This gate has been closed, with the result that no more water flows into Lower Klamath. There is very little rainfall in that region, and, naturally, during the past summer the lake very largely dried up.

A member of the Audubon Society who recently visited the region states that in

the area where a few years ago Ducks and Geese and their young were found by thousands in the spring and summer, today there is nothing but a barren desert over the surface of which the wind whips the dust and sand as it does among the sage brush on the shore.

The Biological Survey of the Department of Agriculture, which is greatly interested in preserving all the bird reservations, recently had a soil survey made of this Klamath Lake soil that had been exposed by the drying up of the water. The report shows that it is so filled with alkalies that it is practically useless for agricultural purposes. Apparently nothing can be induced to grow on it but a rank kind of native grass.

Congressman Raker, of California, recently introduced a bill in Congress (House Bill 8440) which, among other things, authorizes and directs the Secretary of the Interior "to determine and make public announcement of what lands in and around Little or Lower Klamath Lake in Siskiyou County, California and Klamath County, Oregon" may be opened for homestead entry.

A sop is thrown to the bird-lovers of the country in the following: "The Secretary of the Interior shall determine which of the lands now within the boundary of the Bird Reservation are chiefly valuable for agricultural purposes and which for the said reservation, and should open for homestead entry those lands that are chiefly valuable for agricultural purposes."

In other words, we are given to understand that the marshes around the lake, and perhaps a portion of the lake, is not needed as a bird reservation and can therefore be converted into farm land, while such portion of the lake as may be determined by the Secretary of the Interior shall be kept as a bird reservation. As a matter of fact, the marshes are just as valuable, if not more valuable, for the birds than the open water, as with the exception of the Western Grebe all the birds mentioned above build their nests in the marshes.

To sugar-coat, and play a little politics on the side, the following proposition is included in the bill:

"Those who served with the military or naval forces of the United States during the war between the United States and Germany and her allies and have been honorably separated or discharged therefrom, or placed in the Regular Army Reserve, shall have preference and prior right to file upon and enter said lands under the homestead laws and the provision of this act for a period of six months following the time the said lands are open to entry."

This, briefly, is the situation, as we understand it today, of the Klamath Lake Bird Reservation. The whole situation is involved in the extreme.

Malheur Lake likewise is on the verge of being dried up. The situation, briefly, is this. This lake, about 15 miles in length by 9 miles in width, is shallow, and is said to be not over 11 feet in depth at its deepest place. Its margins, likewise, are marshy, and it is believed to be the greatest breeding-place for wild fowl in the United States. It lies in the desert country of southeastern Oregon where there is extremely little rainfall. Its waters are kept up by the Silvies River, flowing in from the north, and by the Blitzen coming from the south. On each of these rivers extensive irrigation projects are now in process of construction, which will divert the water from the Lake to irrigate desert lands. Under the burning desert suns a year or two will probably be all that is necessary to dry up the lake completely. There are a few ranches along the margins of the reservation which of course will likewise be ruined.

Franklin B. Lane, Secretary of the Department of the Interior, might perhaps be able to save these reservations if enough people in this country were quickly to register their protests against this destruction. Certainly the Senators in Washington should be urged to vote against the Raker Bill. This Association has fought from every point in the slow, losing fight for the Klamath and Malheur Lake Reservations, and it shall continue to use every effort within its means until the matter is

finally and definitely settled. New and vigorous efforts have recently been started.

Naturally enough, as in other campaigns of similar character, we are not in position at this time to advertise just what steps we are taking or intend to take in the near future.

Politics in Oregon

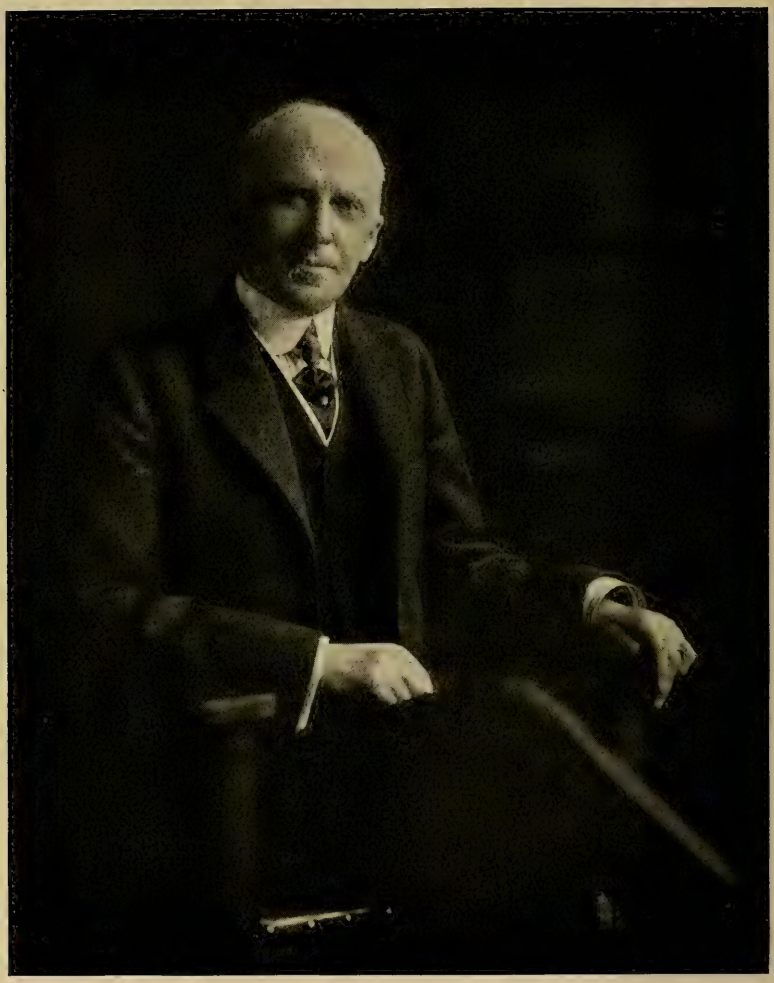
Just before the holidays, the Board of Fish and Game Commissioners of Oregon held a secret meeting and dismissed William L. Finley, State Biologist. There were no charges against Mr. Finley in any way, but, as he had refused to play politics and sacrifice the conservation of the state's wild life for the sake of getting votes, it was decided to dispose of him and spend the money on some good vote-getter, a man who would play regular and do what he was told. However, as it turned out Finley proved to be a bigger man than the Game Commission, for as soon as the star chamber action of this Board of Commissioners became known, the people of Oregon arose in mass. Almost every conceivable kind of organization in Portland, including the Chamber of Commerce, State Sportsmen's Association, etc., voiced their astonishment and promptly sent their representatives or communications to the Governor demanding that Mr. Finley be reinstated in office. The school children by hundreds stormed the newspaper offices, and a petition bearing 30,000 of their names was sent to the Governor in Mr. Finley's behalf.

This Association, of course, instantly filed a strong letter of protest with the Governor, copies of which were sent to the newspapers throughout the state. Benjamin W. Olcott, who is Governor of the state of Oregon, is also chairman of the Board of Fish and Game Commissioners. He was not present when the Commissioners held their meeting, but the latter stated he had given his consent to the removal of Mr. Finley.

Mr. Finley is extremely popular in Oregon, and when the storm broke about the Governor's ears, he, good politician that he is, decided in a few days that he would ask the Board of Fish and Game Commissioners to reinstate Mr. Finley in office. He therefore communicated his wishes to the Commissioners. These four gentlemen met and decided to stand by their guns, and refused to concede to the Governor's order. Another week passed by, during which floods of protests continued to reach the Governor. At the end of this time he came out with a statement that at the coming session of the Legislature, which meets in a few weeks, he would recommend that the Board of Fish and Game Commissioners as present constituted be abolished, and that two separate boards be appointed, one to handle conservation of wild life, and the other to handle the commercial fishing interests. He declared, furthermore, if the Legislature did not do this he would dismiss all the old Fish and Game Commissioners and appoint a new Board. In any event, there is little doubt that Mr. Finley will shortly be offered his old position, and the indications are that on the platter holding the commission of office there will be a nice bouquet in the form of a substantial increase in salary.

Bird Lectures Available

Herbert K. Job, in charge of our Department of Applied Ornithology, is accepting appointments for public lectures, using a wealth of splendid motion pictures and colored slides, either or both, of various classes of wild birds from life. We urge our friends to secure a lecture this season. Not only are they delightful, but the proceeds go toward maintaining the above department of our work. Write to him for a circular; address 291 Main St., West Haven, Conn., or our New York office.



CHARLES HENRY DAVIS

By the death of Charles Henry Davis, on October 5, 1918, there passed away one of the sterling citizens of Michigan who did much for the upbuilding of the northern portions of the Middle West.

The first twenty-one years of Mr. Davis' life were spent either in school or on his father's farm near Portsmouth, N. H. In 1869, however, he went to Michigan, and in time became one of the leading figures in the lumber and mining interests of that state.

Mr. Davis was a sportsman in its broadest sense, and his periods of recreation were largely passed in hunting and fishing trips. He was extraordinarily fond of the wilderness, and the actual killing of game was always a secondary consideration to the joys he experienced while camping and tramping in the open. Mr. Davis was interested in the conservation of wild life and left a bequest to the National Association of Audubon Societies. After paying the necessary taxes to the state of Michigan, the check which the Association has recently received amounted to $952.50.

Bird-Work and the Children

The organization of Junior Audubon Classes, chiefly in the public schools of the country, has been going forward of late on an increased scale. During the autumn months, and up to the first day of January, 1920, there were enrolled something over 88,000 Junior Audubon members, which is a larger number than during the same period of any previous year. There have also been an unusually large number of notices in the local papers throughout the country, dealing with the activities of these Junior Classes. The following letter written by Oran Edison, a Junior Member, was recently published in the *San Francisco Bulletin:*

"The Audubon Club is, as you probably know, a society for the protection of the song-birds and useful Hawks and Owls of our state. Because we study birds, that is no sign we study their long Latin names that have been wished onto them. Our Club goes on many hikes to Lake Merced, to hidden nooks and crannies in Golden Gate Park, to Black Hills, and at present a hike to Bay Farm Island is being discussed. These hikes are anything but tame and prosy affairs; we go out for a good time and there are no nonsensical restrictions. Our lunch is cooked over a campfire; we wear the oldest clothes we have, so that we can climb trees, cliffs and fall into the water and mud with a perfectly clear conscience. Our mothers do not need to worry about us, as there is always a teacher along who is at the head of the club, and maybe another grown person will come as a guest."

Here is another by a school-girl, Madeline Kurkowski, published in the *Richfield Springs* (N. Y.) *Mercury:*

"The Seventh Grade Audubon Society held a party in the Assembly Hall on Monday afternoon, from 4 until 6. All members of the Society were present, together with the following guests: Professor and Mrs. Pratt, Miss Jordan, Miss Brady and Miss O'Mara. The program consisted of recitations and piano and Victrola solos, after which refreshments were served.

"Another Audubon Club was organized in the Sixth Grade on Monday afternoon and the following officers were elected: President, Milton Lonnebacker; Vice-President, Maria Wallis; Secretary, Winthrop Moore; Treasurer, Kenneth Watson. The reason of the Club is to be kind to all birds. You can save many birds by putting food in old houses or on window-ledges; also to see that they are not hurt by their enemies. Besides that the Club will have a few social gatherings."

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Barrell, Finley
Bicknell, E. P.
Biddle, William C.
Book, C. H.
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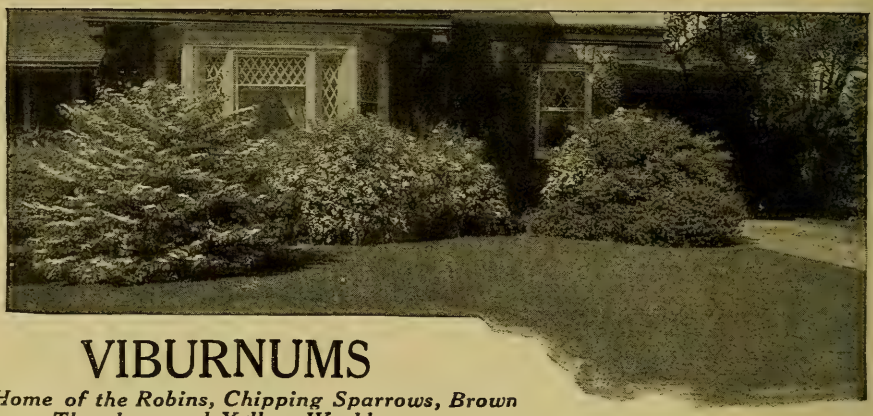

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MARCH—APRIL, 1920

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Bird-Lore

APR 15 1920

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R. Weber

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March-April, 1920

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APR 15 1920

A Bird Watcher in France

By DR. HERBERT R. MILLS, Tampa, Florida

FROM August 1917 until July 1919 it was my fortune to serve as medical officer with the American Expeditionary Forces, first with the British Army in Belgium and later with the American First Division in France and Germany; and during this time I made such bird-notes as my limited opportunities would permit. In the northeastern part of France, where for obvious reasons these notes were principally taken, bird-life is fairly abundant, as far as the small song-birds are concerned and the insectivorous and seed-eating species, while the larger raptores and water-fowl are notably lacking, The country is beautiful rolling farm-land cultivated to the ordinary grains, vegetables, and fruits. Among the carefully groomed fields, meadows, and park-like woods, the little villages are clustered as closely almost as single farm-houses are in our country. I do not believe that the average United States soldier would consider it an exaggeration to call the climate "cool and moist."

I believe that the most conspicuous birds of France are the Crows of several species, and it was with the Rook (*Corvus frugilegus*), a member of the Crow family, that I became most intimately acquainted. Rooks are everywhere—hundreds may be seen feeding in the field at one time, and they nest in the woodland groves in colonies of thousands; whence it is likely that our word "rookery" originated. The young are used for food, and about April, when the nestlings are still in the down, the people resort to the rookeries with climbing irons and sacks and gather the young from all the accessible nests. The government pays a bounty of 25 centimes (5 cents) for young and old birds, so that, since the French soldier is said to be paid but 25 centimes a day for his services, I do not wonder that he seeks to augment his meager pay and wartime rations with this source of food. In the fields, associated with the Rooks, are Crows (*Corvus corone*), Hooded Crows (*Corvus cornix*), Jackdaws (*Corvus monedula*), and Starlings.

In December, 1918, on the march of the First Division into Germany, I saw thousands of Jackdaws swarming to the Moselle Valley every night to roost. At that season, and in that northern latitude, it is interesting to note that the

Jackdaw's night began at about 3.30 P.M. During the breeding season they inhabit cathedral towers, ivy-grown ruins, and fortifications. Their call-note is very similar to that of our Red-bellied Woodpecker. Magpies (*Pica rustica*) are common all over France. Like the Crow (*Corvus corone*) they nest in isolated pairs and often place their nests of twigs in the tops of poplars, where they are sometimes difficult to distinguish from the clumps of mistletoe with which these trees are so heavily infested. I was surprised one day to see a Magpie laboring along with a full-grown field-mouse in its bill. In the fall, the Starlings (*Sturnus vulgaris*) flock to the fields with the Crows and Rooks, but in mating-time they usually frequent dwelling-places, building their nests about buildings or in holes in trees. At all times the Starling is a pleasant and interesting companion, a comical songster, and moreover a bird of useful habits. It is unfortunate if our prejudice toward him in this country has made us blind to his many virtues.

In order of abundance the Swallows probably come next. The Swallow (*Hirundo rustica*), resembling our Barn Swallow, and the House Martin (*Chelidon urbica*), distinguished by the white upper tail coverts, are by far the most common representatives of this family. Only once have I seen Sand Martins (*Cotile riparia*). This was in September, 1918, near Mont Sec. The Swallows and House Martins build their mud nests under the eaves of buildings, and I saw them with young in the nest as late as September 22, 1917. In fact, this ought to be a good time for insect-eating birds to raise their young in France, as I have never seen common house flies in such overwhelming millions (except in Kansas) as they were in France in the early fall.

The Titmouse family is well represented, six species appearing on my list. The Great Titmouse (*Parus major*), Blue Titmouse (*Parus cæruleus*), Marsh Titmouse (*Parus palustris*), Coal Titmouse (*Parus ater*), and the Crested Titmouse (*Parus cristatus*) are all very common. The Long-tailed Titmouse (*Acredula rosea*) I observed but once and this was last April in the Westerwald of Germany.

Some of the most attractive birds of Europe are included in the family of Finches. The beautiful Chaffinch (*Fringilla cælebs*), the Goldfinch (*Carduelis elegans*), and the Bullfinch (*Pyrrhula europea*) are named in order of numerical occurrence as I found them. Of plainer plumage are the Tree Sparrows (*Passer montanus*) and the Yellow Hammer or Yellow Bunting (*Emberiza citrinella*), both of which are abundant. On April 14, 1918, near Beauvais, I saw the Cirl Bunting for the only time. The House Sparrow (*Passer domesticus*) does not seem as numerous here as with us, and instead of being despised, I found it in some localities, at least, to be held in rather high esteem. In fact, it is often encouraged to nest about dwellings by means of special nesting devices resembling jugs placed under eaves and over doors and windows; and I have seen up to a dozen of these innocent looking traps on one little cottage. Traps they are, for as soon as the young are well feathered and ready to leave the nest, they,

like the young Rooks, are used for food. During the season one pair of Sparrows will contribute several broods of young toward the food-supply of their human host.

France has many splendid song-birds. The Robin or Redbreast (*Erithacus rubecula*), Blackcap (*Sylvia atricapilla*), Skylark (*Alauda arvensis*), Woodlark (*Alauda arborea*), and Blackbird are among the best. I am not sure that I heard the Nightingale, but if I did I will give any of the above a place ahead of him as a songster. One May night, in Coblenz, Germany, I heard a bird singing which was said by a native to be the '*nachtigall.*' It sounded like someone blowing a bird-whistle—the kind in which water is employed to produce the warbling effect. I think that the famous Skylark is the most gifted songster that I have ever heard, and to watch him in his ecstasy is to behold one of the most wonderful spectacles of nature. He begins to sing as he takes to the air and continues to sing without interruption as he mounts, hovers, soars, and, finally, after a moment or so of this supreme expression of musical exuberance, drops again to the ground. The song of the Lark is more than a song; it is a musical play and the sky is his stage. From early March until late summer, from dawn until dusk, his voice may be heard; even in the driving rain I have watched him sing.

One more especially remarkable bird is the brilliant little Kingfisher (*Alcedo ispida*). The first time I saw him was in September, 1918, while I was swimming in the River Meuse. It is said that the feathers of this species are used in the manufacture of artificial fish bait, probably because of some special lure with which the plumage of this little fisherman is believed to effect his prey. Swimming, by the way, with the body submerged in the water, is a very good means by which to observe birds at close range, as they often show no fear of a human head apparently detached and floating aimlessly about in the water. Thus I have sometimes been able to encroach within a few feet of beach birds on the Florida coast, that would, ordinarily, require a high-power field-glass for satisfactory observation. The method is not original with me, I having acquired it from an enthusiastic and resourceful bird-watcher of Knoxville, Tenn.

Space will permit me to mention only the remaining birds of my list, although the Water Ouzel (*Cinculus aquaticus*) and the Wryneck (*Lynx torquilla*) are as odd and remarkable as their names sound. The others are: Fieldfare (*Turdus pilaris*); Song Thrush (*Turdus musicus*); Wheatear (*Saxicola œnanthe*); Whinchat (*Pratincola rubetra*); Stonechat (*Pratincola rubicola*); Redstart (*Ruticilla phœnicurus*); Black Redstart (*Ruticilla titys*), nest with young June 8, 1919, located in niche in wall of Casino (Officers' Club), Coblenz; Whitethroat (*Sylvia cinerea*); Goldcrest (*Regulus cristatus*), very similar to our Golden-crowned Kinglet; Hedge Sparrow (*Accentor modularis*); Nuthatch (*Sitta cæsia*); Wren (*Troglodytes parvulus*); White Wagtail (*Motacilla alba*); Pied Wagtail (*Motacilla lugubris*); Grey Wagtail (*Motacilla melanope*); Red-backed Shrike (*Lanius collurio*); Tree-Creeper (*Certhia familiaris*), almost identical

with our Brown Creeper; Jay (*Garrulus glandarius*), a very handsome and noisy bird with one very characteristic note which sounds like the ripping of a piece of tough canvas; Crested Lark (*Alauda cristata*); Black Swift (*Cypselus apŭs*); Cuckoo (*Cuculus canorus*), its call is a musical 'cuckoo' with the accent and higher intonation on the first syllable; Barn Owl (*Strix flammea*); Long-eared Owl (*Asio otus*); Kite (*Milvus ictinus*)—I saw three of these uncommon birds together near Julvecourt on September 28, 1918, on the march of the First Division into the Argonne; Kestrel (*Tinnunculus alaudarius*) nesting in old Crow's nest, May 7, 1918, one egg; Mallard (*Anas boscas*); Wood Pigeon (*Columbia palumbus*); Turtle Dove (*Turtur communis*); Pheasant (*Phasianus colchicus*); Partridge (*Perdix cinerea*); Moor Hen (*Gallinula chloropus*); and Coot (*Fulica atra*).

It is interesting in this connection to compare the common English names of the European birds with those of ours and to note how misleading such names often are. The Blackbird of Europe is a "blackbird" in size and color of plumage perhaps, but the comparison ends there, for otherwise he is a Thrush in appearance, habits, and song. The Redstart is a representative of the old World Warblers and is entirely different in markings to our Warbler by this name. The English Robin, or Redbreast, is a 'Robin' as far as popularity goes, but that is all. He is, in fact, a small Warbler (*Sylviinæ*) with a bubbling, Wren-like song. Even the crimson throat and breast of this species and the rufous underparts of the American Robin are hardly enough alike to be worthy of comparison. Only the most casual observer would allow himself to be so influenced by the Sparrow-like markings of the little Warbler (*Accentor modularis*) as to call it the Hedge Sparrow. The Tree Sparrows of the two hemispheres are not to be confused. The Yellow Hammer is a Finch instead of a Woodpecker, and the Buzzard is a Hawk and not a Vulture. It seems that the early settlers in naming many of our birds were very careless observers and were guided largely by slight superficial resemblances with the birds of the mother country, with which they were familiar. The scientific name is the only exact designation of a species.

Game-birds are sold in the markets of France, whether legally or not, I cannot say. In Dijon I have seen Mallards and other Ducks exposed for sale, and in Nice, last fall, I saw Moor Hens, two species of Rails, and also Song Thrushes, Blackbirds, Jays, Magpies, and Tree Sparrows. In Marseilles, at the same time, I saw Thrushes, Skylarks, Goldfinches, and Bullfinches offered for sale as cage-birds.

With the small birds of the insect-eating class in predominance, and the birds of prey greatly reduced in numbers, we are not surprised at the results which this unbalanced condition seems to have caused, namely, a moderation in the numbers of insect pests and an over-abundance of injurious rodents—field-mice and moles with which the fields of France abound, and rats which were one of the scourges of the army. Snakes, another of the natural enemies

of these pests, are also very scarce. During the entire two years that I was in the A. E. F. I saw but one snake—a small Colubrine species—and it was dead. That the remaining raptores, of which the Kestrel is the most numerous, are making a faithful effort to make up for the thinness of their ranks is evident at every hand. Pellets of bone and hair, and often of the chitinous parts of insects, are frequently found in the fields, and great quantities of them lie about the nesting-sites of the Owl, which I take to be the Short-eared Owl. At Nouart, near Buzancy, I found a pair of Barn Owls occupying a ruined church tower. Not only was the floor of this tower littered with bushels of 'pellets,' but there were many dead field-mice lying about uneaten, indicating that the Owls had continued to kill them even after their hunger had been satisfied. Two American 75's had struck this church before the Germans had evacuated the village, one of them carrying away part of the tower, but the Owls stuck to their post. It is probable, also, that weasels, which are quite common, exact some toll from the excess of rodents. With the exception of the fly plague, which persists for a few weeks in the fall, insects are kept well in check. Part of the credit for this must go to the birds but some at least is due their more humble allies, the lizards, toads, and bats with which this land is so richly endowed.

Field Sparrows

By F. N. WHITMAN, Ithaca, N. Y.

With Photographs by the Author

A SLIM Sparrow form, with a caterpillar in its bill, dropping into a bush in a nearby slough, directed me to its nest, which I found located about 8 inches above the water, under a tuft of tall grass that bent over it. It was an unusually safe situation. When I drew aside the tall grass, instantly four young Field Sparrows jumped forth and started paddling away, but a

THE YOUNG COWBIRD CLAIMS HIS SHARE. COMPARE HIS SIZE WITH THAT OF THE YOUNG FIELD SPARROW

STUFFING THE FOOD WELL DOWN THE YOUNGSTER'S THROAT

Cowbird included in the family with its inherited trust in Providence, was quite content to remain where it had been well cared for. In contrast to the fairly well-feathered condition of the young Sparrows, then (June 12) about eight days old, the foster bird, which was about twice their size, was still in the quill-

A FIELD SPARROW FAMILY AND (AT THE RIGHT) A YOUNG COWBIRD ABOUT ELEVEN DAYS OLD

feather stage. Once, when I picked it up, its cries attracted the attention of a female Cowbird, which appeared much disturbed. Having palmed her family cares off on some other small bird, she apparently nevertheless felt a general interest in the young of her species.

On the third day after discovering the nest, as I was focusing on the young birds perched on a stick, the image of one of the old birds appeared on the screen, and thereafter they showed little concern at my presence, even when

THE FIELD SPARROW'S HOME—BOTH PARENTS AT THE NEST. YOUNG ABOUT EIGHT DAYS OLD

I stood within arm's reach. Green caterpillars were brought in abundance, also spiders, grasshoppers, etc., mostly obtained on the ground. Both parents were kept very busy with four of their own young and a foster Cowbird (which required double portions) to be cared for. The Sparrows fall and winter diet of seeds is varied in the spring and summer by one mainly of insects, and the young are apparently raised entirely on the latter.

During the busy period of raising their young, the Field Sparrows have no time for singing, but they, together with many other of the Sparrow family, voice their buoyant spirits well into the fall, and even in November we may hear their slightly tremulous farewell songs.

A Surprised Crow

By VERDI BURTCH, Branchport, N. Y.

TO lure Crows close enough to the barn, from which the Pheasants figured in the last issue of BIRD-LORE were photographed, for a good picture we nailed several pieces of suet to a board, laid it on the ground and covered it with snow, leaving the pieces of suet exposed. Then, with C. F. Stone, I retired to the building, and, with both cameras trained on the suet, we awaited developments. Soon a Crow came and alighted some 8 to 10 feet from the suet and approached slowly and with great caution, walking around the suet and making feints at it. Finally he made a grab for it, and it was at this instant that we pressed the levers to our cameras, my shutter being released a fraction of a second before Mr. Stone's. As the Crow struck the suet, he jumped back, raising his wings, and my camera caught him before he was

THE CAUCUS

fairly under way, his tail in the snow and head and feet hidden by his partly opened wings (Fig. 1). Mr. Stone, however, caught him clear from the ground, his wings fully extended, head and feet forward, and with a beautiful look of surprise (Fig. 2). After this he seemed to be satisfied that there was no danger, for in a few minutes he was calmly pulling the pieces of suet from the board and eating it, with others of his clan.

An Unusual Horned Lark Family

By FRANK LEVY

With a Photograph by the Author

IT was in the Calumet region, just south of Chicago, that on May 17, 1918, I first saw the pair of Prairie Horned Larks of which I am writing. At that time I could find no sign of a nest, although the birds appeared to be attached to a certain portion of the prairie. This was a dry section bounded on three sides by swamps at a distance of about 200 feet. It seemed queer to

HORNED LARK ABOUT TO FEED YOUNG

me to see three species of Rails, Coots, Pintails, and Blue-winged Teal within a short distance of the dry country inhabited by Horned Larks. On May 24, while working the same place, I flushed one of the birds from its nest, and, upon examining it, I found eight eggs. They were unquestionably all Horned Lark's eggs, and, to all appearances, from this one pair of birds. As far as I know, the usual set of eggs is three or four, this being the only exception that I have heard of.

Two weeks later, on May 31, after we had had two days of violent rain, I returned to Calumet and found not only that the nest was intact and that all of the eight eggs had hatched, but that the birds were about five days old. In fact, some of them kicked themselves out of the nest when I came near and tried their feeble legs. While I was examining the young birds from a distance of

not over 3 feet from the nest, I was surprised to see one of the parents approach and feed the fledglings as though I was not within a short distance of them and in no way concealed. I could not determine the sex of the adults, but I do know that they both fed the young ones and with the greatest regularity, about two minutes elapsing between each visit of the same bird. Thus, at least while I was there, some of the birds were fed every minute. The parents would circle about the nest after having found their food and approach on foot on the opposite side of the nest from where I sat. Usually they flew away from the nest, and walked up to it on the return trip. The young birds were fed only a peculiar white object from all sides of which fine, hair-like filaments projected. They seemed to get this food from the ground all about the nest and usually moved it around in their bills before feeding it. I could not identify this food or obtain a sample of it. It is shown in the accompanying photograph, taken without any concealment, and with the lens within ten inches from the nest.

Migration Group Chart

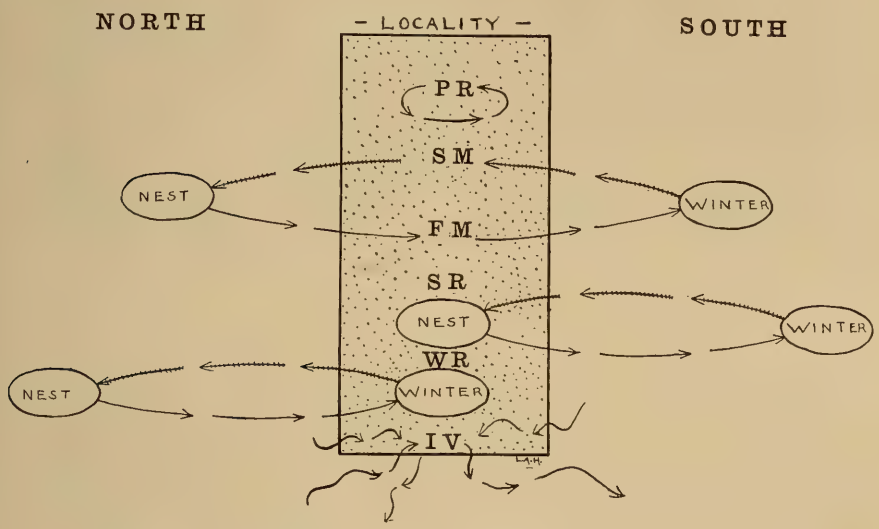
By S. A. HAUSMAN, Cornell University, Ithaca, N. Y.

THE accompanying chart is designed to show graphically the rather complex relationships of the various migrational groups of birds which occur within any given area, and was devised to meet the needs of Junior bird students to whom the intricacies of migrational movements of birds are often apt to be somewhat of a puzzle.

The dotted area represents any given locality within which there normally occur at least six well-defined groups of birds: (1) The Permanent Residents (PR), or those which reside within the area, and do not migrate, at least to any great degree. Within the permanent resident group are included such birds as are represented within the area *as to species*. It is probable, however, that the individuals which one sees in the winter are not the same ones observed in the summer. Examples of this group in New York state are the Bob-white, White-breasted Nuthatch, Downy and Hairy Woodpeckers. (2) The Spring Migrants (SM) are those birds which nest to the north of the area, and winter to the south of it, and pass through the area in the spring. Examples: White-throated Sparrow, Myrtle Warbler, and Yellow-bellied Flycatcher. (3) The Fall Migrants (FM) are those of the group just mentioned returning to their wintering grounds in the fall. (4) The Summer Residents (SR) are the largest group and consist of those birds which winter to the south of the area, and return to it each spring to nest. This group contains the largest number of our best-known birds, such as the Robin, Bluebird, Phœbe, etc. (5) The Winter Residents (WR) comprise those birds which nest to the north of the area and come to us in the fall to spend the winter, such species as the Red-breasted Nuthatch,

Bluebill or Scaup Duck, and Herring Gull. (6) The Irregular Visitants (IV) are those which are not properly members of the avifauna of the area, but which, apparently, by pure chance or accident, straggle into the area from time to time. In the northern part of New York state examples of this group are the Evening Grosbeak and the Cardinal.

It will be noted that, in our latitude, the spring migration is from the south toward the north in the case of each group, and is represented by the upper



MIGRATION BIRD GROUP CHART

lines of heavy, cross-barred arrows, while the fall migration is in the opposite direction and is represented by the lower lines of plain-shafted arrows. The arrows which show the routes of the Irregular Visitants are intended to indicate that their arrivals and departures are capriciously north, south, east, or west.

For restricted areas where a bird migration record is being kept, such a chart is very helpful. It can be expanded and space sufficiently large left under the name of each group to enable the listing there of all the birds belonging to the group, with the dates of their arrivals and departures.

GOLDEN-CROWNED KINGLET AT HERBARIUM FEEDING STATION
Photographed by Wm. L. G. Edson

Winter Feeding-Stations at Highland Park, Rochester, N. Y., 1916-17

By W. L. G. EDSON, and R. E. HORSEY

THE winter feeding-stations at Highland Park, Rochester, N. Y., were continued through the winter of 1916–17, special attention being given to the Herbarium feeding-station, of which a day's record was kept on March 5, 1916, and printed in BIRD-LORE for September–October of that year.

A window-shelf placed at one of the Herbarium windows gave a chance for close study and sure identification, with photographs of our most interesting visitors, the American Crossbill, seven of which arrived January 15 and were seen almost every day until April 27. They lived only on sunflower seed, both from the food-shelf and food-hopper. At the end of the season (April 26 and 27) two White-winged Crossbills visited the food-hopper.

The suet was the attraction for another visitor not recorded last winter, a Golden-crowned Kinglet, noted all winter.

The Cardinal, an accidental visitor at Rochester, was with us again all winter, eating sunflower seed. The last one seen here was in 1913–14. It was recorded in the 'Report from Rochester, N. Y.' on bird-feeding in BIRD-LORE for December, 1914. The value of a feeding-station was proved, for sceptical persons were soon convinced of this bird's presence here, by spending a few hours at the stations where food was placed.

The Red-breasted Nuthatch ate quite freely of sunflower seed, while a year ago we had *no* record of them doing so. The best result, perhaps, was the nesting

of the Red-breasted Nuthatch in the Highland Park Pinetum, five young being raised in an Audubon bird-house No. 2, placed for them on an electric wire pole in the midst of thick hemlocks. The parents and young often come to the suet to feed. They left the nest on June 28. This is the first record we have seen of this bird breeding in Monroe County, N. Y.

Of course, the Chickadees, White-breasted Nuthatch, Downy Woodpecker, Hairy Woodpecker, Tree Sparrows, Brown Creeper, and Pheasants visited the stations, feeding as reported last year. While last year the Pheasants were fed in the thick portions of the evergreens, this year a station was established in the edge of them, where they were watched from the Herbarium windows, as many as eight being seen at a time, usually in early morning or late afternoon.

The suet is kept out all summer and is much enjoyed by Red-breasted and White-breasted Nuthatch, Catbird, Robin, Wood Thrush, and Brown Thrasher.

AMERICAN CROSSBILL AT HERBARIUM FOOD-SHELF
Photographed by R. E. Horsey

The Migration of North American Birds

SECOND SERIES

XII. ARIZONA JAY, CALIFORNIA JAY, AND THEIR ALLIES

Compiled by Harry C. Oberholser, Chiefly from Data in the Biological Survey

(See Frontispiece)

ARIZONA JAY

The Arizona Jay (*Aphelocoma sieberii arizonæ*) is a subspecies of Sieber's Jay, of which there are several subspecies in Mexico, but of which only the present and following form occur in the United States. The Arizona Jay is practically resident wherever found, and ranges from southeastern Arizona and southwestern New Mexico south to northeastern Sonora and northern Chihuahua.

COUCH'S JAY

Couch's Jay (*Aphelocoma sieberii couchii*) is the other United States race of Sieber's Jay, and ranges from southern Nuevo Leon northwest through the Mexican state of Coahuila to just over the United States boundary in the Chisos Mountains of central western Texas.

FLORIDA JAY

The Florida Jay (*Aphelocoma cyanea*) is resident, locally, in the peninsula of Florida, where it inhabits the low scrub south to Fort Myers and Miami and north to Jacksonville.

CALIFORNIA JAY

The California Jay (*Aphelocoma californica*) as a species now includes as subspecies several forms of the genus *Aphelocoma* that were formerly considered species. It thus has a rather wide geographic range from Washington and Idaho south to southern Mexico, and from the Pacific coast east to Wyoming and Texas. All its races, like all the other representatives of the genus, are strictly resident, and we have, therefore, no migration dates to offer.

The typical **California Jay** (*Aphelocoma californica californica*) occurs in the coast district of central western California, east to the Coast Ranges, north to the southern side of San Francisco Bay, and south to Santa Barbara and Ventura counties.

Swarth's Jay (*Aphelocoma californica oöcleptica*) inhabits the coast region of northern California, east to the Coast Ranges, south to San Francisco Bay, and north to Wedderburn, southwestern Oregon.

The **Long-Tailed Jay** (*Aphelocoma californica immanis*) is confined chiefly to California and Oregon, ranging north to central southern Oregon and southwestern Washington, west to the Coast Ranges of Oregon and northern California, south to the southern Sierra Nevada and south central California,

and east to the Sierra Nevada, to northwestern Nevada, central southern Oregon, and the Cascade Mountains in western Oregon.

Belding's Jay (*Aphelocoma californica obscura*) occupies the coast region of southwestern California and northern Lower California, north to the San Gabriel and San Bernardino Mountains, California south to Santa Ana, Lower California, at about 29° 20′ north latitude, and east to the San Bernardino Mountains, California.

Xantus's Jay (*Aphelocoma californica hypoleuca*) is found in the southern two-thirds of Lower California, ranging from Cape San Lucas north to Yubay at about 29° 15′ north latitude.

The **Texas Jay** (*Aphelocoma californica texana*) ranges in central and central western Texas east to Kerr County, north to Taylor County and the Davis Mountains, west to the Davis Mountains and the Chinati Mountains, and south to the Chisos Mountains.

Woodhouse's Jay (*Aphelocoma californica woodhouseii*) ranges in the western United States north to southern Wyoming, southern Idaho, and southeastern Oregon, west to western Nevada and southeastern California, south to southeastern Arizona, southern New Mexico, and the northern part of central western Texas, and east to eastern New Mexico and eastern Colorado.

SANTA CRUZ JAY

The Santa Cruz Jay (*Aphelocoma insularis*) is resident and confined to Santa Cruz Island in the Santa Barbara group, California.

Notes on the Plumage of North American Birds

FIFTY-SIXTH PAPER

By FRANK M. CHAPMAN

(See Frontispiece)

Arizona Jay (*Aphelocoma sieberii arizonæ*).—In juvenal (nestling) plumage the entire upperparts are uniform gray, the underparts much as in the adult. At the postjuvenal molt these slight differences disappear and on its completion young and old are alike in color. There are no sexual or seasonal differences.

Sieber's Jay ranges over the greater part of the Mexican tableland, some six forms of it being recognized, of which two enter the United States, the present, and Couch's Jay.

Florida Jay (*Aphelocoma cyanea*). In juvenal (nestling) plumage the crown, nape, and breast-band are sooty instead of blue, the back somewhat darker, the underparts whiter, and the throat unstreaked; but these differences disappear with the postjuvenal molt, when all but the wings and tail-quills are shed; and thereafter young and old are alike.

The Florida Jay must not be confused with the Florida Blue Jay. The latter

is a closely related form of our northern Blue Jay, the former is a representative of the *Aphelocoma californica* group of Jays of the western United States. Reference to the plate will show how closely it resembles the California Jay, nevertheless its range is separated from that of the nearest race of that species (Texas Jay) by no less than 1,000 miles. The occurrence in south central Florida of the Burrowing Owl presents a similar and equally puzzling problem in distribution.

California Jay (*Aphelocoma californica californica*). In juvenal (nestling) plumage the crown and sides of the head are grayish brown, the back somewhat paler with no tinge of blue, the white line over the eye of the adult is obscure or almost wanting, the breast-band is faint dusky and the streaked appearance of the throat is barely suggested. At the post-juvenal molt the tail and wing-quills are retained, the balance of the plumage molted when the bird acquires a plumage similar to that of the adult; and thereafter there is no essential change in its appearance.

In slightly differentiated forms the California Jay is found throughout the greater part of the western United States and southward into Mexico. Since it is non-migratory, only one form may be expected to occur in a given locality, and the various forms may be better identified by the locality in which they are found than by the characters on which they are based. The student is therefore referred to Dr. Oberholser's statement of the ranges of the various races in the preceding paper.

Santa Cruz Jay (*Aphelocoma insularis*). This is a closely related, dark form of the California Jay inhabiting Santa Cruz Island of the Santa Barbara group. If its range met that of the mainland form the two would doubtless intergrade, when the island bird would be ranked as a subspecies, but as the insularity of the bird's home prevents such contact, and as it is sufficiently distinct not to intergrade by individual variation, it is ranked as a full species. Its plumage changes are doubtless similar to those of the California Jay.

Notes from Field and Study

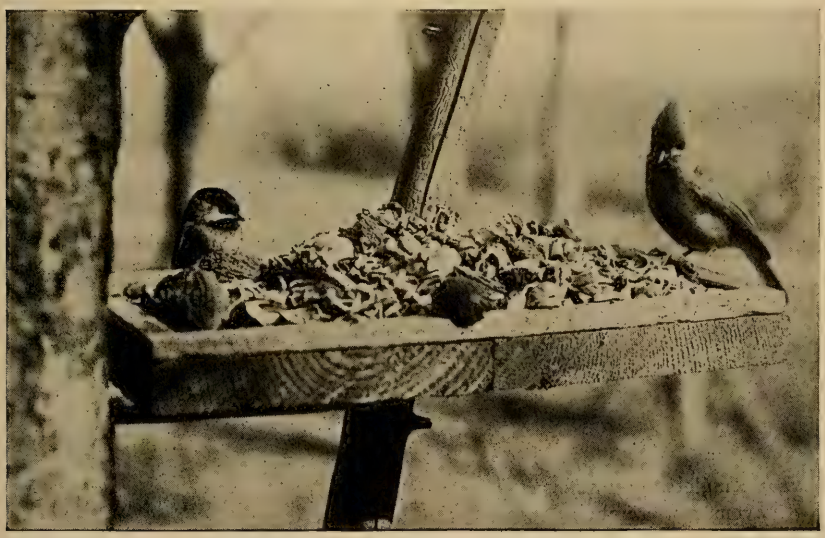
A Western Bird-Table

Bird-lovers in the East who dread the appearance of frost and snow would do well to remember that it is these things alone that make possible the friendly intimacy of winter bird-feeding. The accounts which I read in BIRD-LORE bring back to me chilly remembrance of the friendly Chickadees, Nuthatches, and Blue Jays in Wisconsin.

I myself have a bird-table prepared in my yard, yet though it is placed in a most inviting situation, under the shelter of a giant, broad-leaved, red-berried madrona, not a single bird visits it, nor do I expect any to come unless we have a fall of snow. Then for a day or two, or, if the winter is severe, for a possible two weeks, the birds fairly swarm to the table, only to desert it entirely with the coming of the first 'Chinook.' Perhaps some of you would be interested in knowing of the birds that visit a Pacific feed-table. The following is my latest list: Oregon Towhee, Rusty Song Sparrow, Oregon Junco, Brewer's Blackbird, Western Robin, Varied Thrush, Red-shafted Flicker, Harris's Woodpecker, Northwestern Redwing, Townsend's Sparrow.

I have had as many as four of these varieties feeding at once: Rusty Song Sparrows, Oregon Juncos, Varied Thrushes, and Western Robins, and, at another time, Oregon Towhees, Oregon Juncos, Varied Thrushes, and Western Robins.

The Juncos are the first and most frequent visitors. They fairly swarm about the table, from twenty-five to one hundred birds often waiting for their turn. Townsend's Sparrows are very shy, seldom more than two or three visiting the table at once, and easily frightened. The Red-shafted Flickers and Harris's Woodpeckers are also shy and come creeping along the picket fence to the table in a depreciating, apologetic sort of way. The Western Robins, though shy, are undoubtedly the 'boss' of the table, driving all other visitors right and left. I have often seen one of them after gorging himself sit for half an hour at a time, keeping all the other



CHICKADEE AND TUFTED TITMOUSE
Photographed by T. L. Hankinson Charleston, Ill.

birds away, though he did not care to eat himself.

Next in number to the Juncos are the beautiful Varied Thrushes. The bright-colored males are much wilder than the females, seldom approaching when anyone is in sight. Among their own kind they are a very quarrelsome bird, fighting and squabbling continually. One of the pleasant features of the Varied Thrushes' visit is that even in winter they give voice freely to their unique, vibrant song, which has a peculiar, most penetrating effect on a clear frosty morning.

While the cold and snow drives Townsend's Sparrows and the Varied Thrushes from the mountains to settled sections and villages, it seems to bring the Brewer's Blackbirds from the lowlands into the hills, perhaps for the shelter which the firs afford. A single female of this species first visited my table late one winter and was very tame. Later she returned with a very shy male, and finally a flock of five were visiting me, accompanied occasionally be a female Northwestern Redwing.

The Oregon Towhees seldom visit the table itself, but are content to eat the crumbs that fall to the ground, while the Rusty Song Sparrows divide their attention about equally between the table and the ground beneath.

Suet, the standby for bird-feeding in the East, is rather at a discount here. Apples and rolled oats are the most favored food, though a dry cookie, carefully nailed down, is much relished. If the season is favorable we may have several of these skits of snow between December and March, during which the bird visitors come and feed, but two or three weeks, altogether, in a winter is the extreme limit.—LESLIE L. HASKIN, *Lebanon, Ore.*

What Has Become of the Golden-crowned Kinglet?

The article on 'The Scarcity of Golden-crowned Kinglets,' by Francis H. Allen, in the November-December, 1919, BIRD-LORE, caused me to inspect carefully my bird-records for the past several years. I found that the Golden-crowned Kinglet was one of our most common winter residents until the hard winter of 1917–18, when, for the first time in my years of observation, it failed to stay here; or else perished because of the severe weather. It was rarely seen in the spring migration of 1918 and was still far from its old-time numbers in the fall of that year. Probably remembering the coldness of the previous winter, it migrated farther south, although last winter was exceptionally mild. The earliest record for this year was March 26. At only one time did it approach normal numbers, April 7, the last date it was seen in the spring. Though it seems to be wintering here this season, it is very rare, not over thirty individuals having been seen since the beginning of the fall migration. It would be interesting to know how general this scarcity has been, even in migrations, in the past two years.

The number of Mockingbirds and Carolina Wrens, so noticeably lessened by the winter of 1917–18, is again normal. The Carolina forms, as of old, one of the small group of vigorous winter songsters, and the Mockingbird kept up its medley in unusual richness until the bitter days of the December blizzards.—GORDON WILSON, *Bowling Green, Ky.*

Scarcity of Golden-crowned Kinglets

The article by Francis H. Allen, in the December issue of BIRD-LORE, on the scarcity of the Golden-crowned Kinglets in Massachusetts, was of interest to me from the fact that the same condition prevails here in northern Ohio, and dates from the same period as Mr. Allen's observations —the fall of 1917.

During the year of 1917 I noted this species on forty-two different days and usually in large numbers. During 1918, I noted them on but ten different days, and only in small numbers or individual birds. During 1919 I have seen them on only six different dates and only two or three at a time.

These figures give a correct ratio of the increased scarcity, I believe, for I have

kept a daily bird record for a number of years and have spent an equal number of days afield during each year.

For a week previous to November 2, 1917, the nights were wet and windy and such birds as White-throated Sparrows, Hermit Thrushes, and others that tarry late in October, were held up from further migratory movements, so that on this day, though there was a foot of snow on the ground, one had the unusual pleasure of seeing the bushy roadways and wood borders literally alive with the above-named birds—and also Fox Sparrows, Towhees, Rusty Blackbirds, Song Sparrows, Myrtle and Palm Warblers. And, as for Golden-crowned Kinglets, there were *thousands*. I walked about six miles through the snow, and it seemed as if every dead weed above the snow had a Kinglet on it, searching for food. During the spring of 1918, I saw but two individuals.

The winter of 1917–18 was an exceptionally cold one, but I do not think the cold alone destroyed the Kinglets (and other species also, for there has been a lessening in numbers of certain other birds). But I have a theory that a certain kind of storm does take a big toll from the smaller winter birds. During December, 1917, on two different occasions, we had a drop in the thermometer of nearly forty degrees—each time the mercury stood above 32 in the evening and at zero in the morning. This, too, the birds might endure, but each time it began with a heavy rain and ended by covering everything with ice and sleet. One can imagine what happens to birds that spend the night protected only by winter weeds, brush, or evergreen shrubbery, especially when the wind blows a gale. Their feathers become soaked, and then freeze during the sudden fall in temperature.

After the second storm of that December, a magnificent Bald Eagle was captured on the beach, his plumage so ice-coated that he could not fly. This bird was kept during the winter by the man who made the capture and then released. Now if such a storm can put a Bald Eagle *hors de combat*, what must it not do to such birds as Kinglets, Tree Sparrows, Juncos, and wintering Song Sparrows?—E. A. Doolittle, *Painesville, Ohio.*

Evening Grosbeak in Connecticut

It may be of interest to note that yesterday, December 17, I saw a flock of from six to eight Evening Grosbeaks. The flock contained birds with the bright-colored plumage of the males and also a number of the duller colored females. This is the second time I have had the pleasure of seeing these birds, the other occasion being in 1911, when a large flock stayed for some time in this vicinity. I have heard Mr. Job in one of his lectures express regret that although he had been informed of this large flock of Evening Grosbeaks on account of business reasons he was unable to come here and secure photographs of them.—W. E. Fuller, *Norwich, Conn.*

White-winged Crossbill in Brooklyn

I think it will interest readers of Bird-Lore to know that the writer has had the extremely good fortune to see a White-winged Crossbill this fall—and that in the heart of the city. On October 31 I saw this rare and interesting bird in the midst of a flock of House Sparrows about 100 feet from my house.

The bird first attracted my attention by its white wing-bars and yellow rump, as it flew down to the gutter from a small tree. I had it within 4 feet of me for almost 2 minutes, and had a fine opportunity to scrutinize every mark on it. The general color was a dull greenish olive; the underparts were quite gray, and the back and head mottled with black. The tips of the mandibles were plainly crossed. Altogether there could be no doubt but that it was an adult female White-winged Crossbill.

When I came back in the afternoon the bird was not to be found and since then has not appeared.—Ralph Friedmann, *Brooklyn, N.Y.*

Prairie Horned Larks and Lapland Longspurs at Ithaca, N. Y.

The winter of 1915–16 was very severe in this part of New York, and many birds whose habitat is a more northerly one spent the winter with us. It was noticed that the Prairie Horned Larks were here in great numbers, and since practically all of their natural food was covered up by the heavy and successive snowfalls, a feeding-station was started for them on sheltered hillside. The Larks were soon coming by tens and even hundreds, and a quart of feed would barely last an hour.

Almost all of them became quite tame and moved away but a few feet when one came to replenish the food-supply. At such times it was an interesting sight indeed to see the field dotted with Larks waiting for their luncheon! It was an excellent opportunity for close study, and we found that we had not only the Prairie Horned Larks (*Otocoris alpestris praticola*) but also several of the Shore Larks (*O. alpestris alpestris*) that are very rare in this vicinity, coming regularly to the feeding-station.

They were very quarrelsome while feeding and were continually rushing at one another. A male would stop feeding, lower his head, slightly elevate his tail, and then dart at his nearest neighbor and try to chase him from the food. Of course this usually resulted in a fight. While they were feeding one could almost always hear the rustling of wings and the sharp, whistled notes as several of the Larks were settling their differences. When the food was all used up, or along toward evening, the Larks would scatter and find sheltered places to rest. At such times they were often seen sitting on stakes and posts in the field, and, on one occasion, one perched on a small tree, a quite unusual thing for a Horned Lark to do.

LAPLAND LONGSPUR AND HORNED LARKS

The Horned Larks were not to enjoy this free food all by themselves, however, for soon Snow Buntings began to come and mingle with them. They were rather shy and always stayed on the outskirts of the noisy Lark-mob, not seeming to appreciate their rough tactics. When the Larks were satisfied and moved away from the food, the Buntings would go in and help themselves. These birds never became as tame as the Horned Larks and generally flew away on our close approach.

One day, several Sparrow-like birds were seen at the station, but they flew

away before we could tell what they were. After they had patronized the food-supply for several days they became much tamer, and we were greatly surprised to see that they were Lapland Longspurs, a very rare migrant, never having been reported here before. They stayed with us while the feeding-station was in operation and were not so shy as the Buntings, but came right up and fed with the Larks.

The weather now was becoming warmer, since this was the latter part of March, and one day, after the snow had melted somewhat, only a few Larks, no Snow Buntings and no Longspurs showed up for dinner. We thought that they had left for the north, but that night another snow came, and the next day Larks, Buntings and Longspurs, all were back again. But spring was on its way, and soon bare spots began to show on the hillsides. The Snowflakes and Longspurs left for the north, and the Horned Larks began to be occupied with domestic cares. The feeding-station was deserted.—C. W. Leister, *Ithaca, N. Y.*

American or Red Crossbill at Pittsburgh

On Saturday, October 25, 1919, I happened to be with a friend in the suburbs (Brentwood), harvesting some pumpkins and digging potatoes from my Victory Garden, when a flock of Red Crossbills came chattering overhead and lighted upon the sunflowers left growing among the cornstalks and now quite ripe and dry. There were, perhaps, twenty to twenty-five of them, both male and female. They were quite at their ease, and seemed to be gentle and unsuspicious. There could be no doubt of their identity, as not only the dull brick-red of the male, brighter on the rump and rusty in the middle of the back, shading to red-gray on the wings, but the dull olive-green of the females, as well as the one characteristic mark alike of both male and female—the crossed beak—were plainly discernible at not over 10 feet distance. They soon took flight but returned a moment later and settled down all around me, and I noticed their swift, dipping flight like that of the American Goldfinch, while on the wing. They remained in the vicinity for some minutes and then flew off in a bunch over the corn-shocks toward the distant hills, with a low, twittering song in unison, as if the birds were talking to themselves.

It was the first Crossbill of my experience and the earliest, I believe, to be recorded in the vicinity of Pittsburgh. All accounts seem to indicate that it is a winter bird and that it feeds almost exclusively upon the seeds of coniferous trees. Does their early arrival, together with their feeding upon sunflower seed, indicate a scarcity of cone seeds in the far north? In this connection it is interesting to inquire, with Mabel Osgood Wright, "If its beak is a development to meet food conditions, will it be gradually modified by the cutting down of the forests of conifers?" Perhaps the Crossbill is changing its habits to meet the changed conditions as a result of the H. C. of L.—Milo H. Miller *Pittsburgh, Pa.*

Notes from London, Ont.

As it is several years since any notes have appeared from London, Ont., the following unusual occurrences may be of interest to Bird-Lore readers.

On the afternoon of May 4, 1918, while hunting through a large field for Bartram's Sandpiper, we flushed a Short-eared Owl from one of the low, damp spots. The bird flew a little way and lit on a stump. We tried to get closer to it but it flew to another stump. Finally, it rose into the air, and, circling higher and higher, was soon lost to sight in the distance. In the air it looked like a large Hawk, for which we would have, no doubt, mistaken it had we not first seen it on the ground. This bird may be commoner in our neighborhood than is generally supposed, but if so, keeps itself well out of the way of the members of our club.

Just south of the city there is a group of three small ponds which we hope some day may be turned into a bird sanctuary.

In the vicinity of these ponds many of our most interesting 'finds' are made, and the summer of 1918 was one of the best yet experienced. This was probably due to the fact that one of our members camped there for some weeks, and each morning paddled around in a canoe to see what interesting changes had taken place over night.

On August 8, a Long-billed Marsh Wren was found, although the location was rather different from that usually favored by these birds. It was not seen again. This is only the third time this Wren has been reported from our county.

On August 11, a Black-crowned Night Heron, in the juvenal plumage, was noted. It remained for several days and was seen by a few fortunate ones. This bird is decidedly rare with us.

A family of Least Bitterns, consisting of the parent birds and four youngsters, was also located. They made a very pretty group as they squatted among the willows along the shore, or walked sedately away through the bushes to avoid the prying eyes of those who wished to study them more closely.

On Oct. 22, 1918, a Barred Owl was seen, also at the ponds. This is the first record of the Barred Owl for many years.

On April 19, 1919, an adult Bald Eagle was observed, and about two weeks later the nest was discovered in a large buttonwood tree. This is the first time in many years that the Bald Eagle has nested in our county. They succeeded in raising two young, but we heard afterward that they had both been shot. We can only hope that the old birds have escaped.

A Carolina Wren spent the summer of 1919 with us, living in the north end of the city. It was first noted on May 29, and after that its ringing song could be heard almost every day. We never learned whether it had a mate or not.

Previous to 1919 we had only one record of the Hudsonian Chickadee. This winter two specimens have been taken in the country just north of London, and a third bird has come into the city and has visited the food-shelves of several of our members. It appears on our Christmas Census. It mixes more or less freely with the other Chickadees, but can easily be picked out of the flock by its more sluggish movements. Is this characteristic of "Hudsonicus"?

On Dec. 28, 1919, a crisp winter morning with several inches of snow on the ground, a White-throated Sparrow was heard to sing quite merrily several times from a Norway spruce hedge along one of our city streets. The occurrence was reported, and one of our members went around later in the day and whistled to it. The White-throat answered quite readily. These birds will sometimes brave our Canadian winter, but to hear one singing with Maytime vigor on a winter morning, with the thermometer not far from zero, was decidedly startling. —C. G. Watson, *Secretary McIlwraith Ornithological Club.*

A Pennsylvania Mocker

It may be of interest to note that a Mockingbird is wintering in Newtown, Bucks County, Pa., surviving the cold weather, no doubt, because of being well fed and looked after by one or more members of the Newtown Nature Club. All the members of this club are endeavoring to feed the winter residents here, but without much success because of the Starling which has become a most obnoxious pest, driving away our native birds, appropriating the hole nesting-sites, and even killing birds. Any information regarding what is being done about the Starling in other localities will be gratefully appreciated by both the Newtown and Yardley Nature Clubs.—Mrs. C. C. Peters, *Newtown, Pa.*

Evening Grosbeak in New Jersey

During the heavy snowstorm of the first week in February there arrived at my home in Point Pleasant, Ocean County, N. J., two Evening Grosbeaks, a male and a female. This is the first time, to my knowledge, that these birds have been

seen in this locality, and their occurrence is doubtless due to the extreme severity of the winter. Since their arrival they have been daily visitors, and the male is extremely approachable, but the female is wild and cannot be induced to join the other birds when we feed them.

It is a quite remarkable fact that while the Cardinals, Fox Sparrows, Song Sparrows, Juncos, Pine Finches, Starlings, and our other regular visitors seem to avoid the society of the Blue Jay, the Evening Grosbeak has no such compunction. The male Grosbeak and a male Blue Jay sat side by side on the limb of a wild cherry tree opposite my window for almost an hour without the slightest sign of battle.—A. P. RICHARDSON, *Point Pleasant, N. J.*

Winter Notes from Ames, Iowa

The weather of early December, 1919, in Iowa, was the most severe that has been recorded for several years. In many parts of the state the thermometer hung around zero for most of this time, and at Ames on several occasions it recorded more than 10 degrees below. During this period most of the state was covered with a deep blanket of snow, varying in thickness up to 12 inches. Such a severe period of weather so early in the season has doubtless had a modifying effect upon bird migrations, especially upon the movements of our rarer winter visitants.

A feeding-station maintained at the writer's house was early besieged with an unusual number of visitors. The Blue Jay and Hairy Woodpecker came to a window-ledge shelf to feed, while male Downies glutted themselves, unperturbed, only a few inches away on the outside of the window-pane. The feeding-station visitors were much more abundant during the month of December than during the more open month of January or the first two weeks of February.

Brown Creepers have been unusually abundant this winter at Ames. Out of a record of 10 species and 144 individuals for December 25, 8 were Brown Creepers; of 11 species and 186 individuals recorded on December 28, 5 were Brown Creepers; of 8 species and 38 individuals reported for January 25, 5 were Brown Creepers.

A flock of Bohemian Waxwings was noticed on January 20. They were first seen feeding on a few thorn-apples left adhering on a tree just outside of the city limits. After being observed a few minutes, the flock flew into the city. At this time 37 birds were counted. The next day the flock attacked a tree of wild crab-apples in the same vicinity, but inside the city limits. The tree was well loaded with fruits perfectly formed but frozen and bitter. Here these birds were seen not only on the 21st, but some of them for every day thereafter until February 4. As they continued to feed on these fruits, some of them became quite tame and would sit or feed in the tree, even with the observer only an arm's-length away. This was true, however, of only a few birds. Upon near approach, some of them would always, and most of them would usually, fly away at the alarm of a leader. The large flock frequently broke up into smaller flocks, yet no matter how frequently divided, they would later all get together in one flock. All birds at first were averse to feeding near the snow-covered ground, with the result that by January 28 the upper and middle branches were completely robbed of their fruit, while those near the ground were loaded and untouched.

On February 4, the flock disappeared, and not a single Bohemian has been seen at Ames since. An examination of the crab-apple tree on the 7th showed that hardly a single fruit had been left. The lower branches had shared the fate of the upper ones and were bare. In this flock, which contained at one time about 50 individuals, not a single Cedar Waxwing was observed, and, it may be added, that Cedar Waxwings have not been recorded here since January 1.

The white-winged Crossbill was seen a few times during the winter. On February 15, Dr. Charles Murray brought a dead male to the Department of Zoölogy for determination. Dr. Murray stated

that the bird, together with two others not so strongly marked, had been observed for several days previous.

The Cardinal, which is rare at Ames, was observed only once, December 28, one individual being seen. The largest number of Cardinals ever reported for one trip at Ames is only 5, which were seen April 20, 1919. Conditions for the Cardinal have been improved here, and it is hoped that in the future it will become the fairly common bird that it now is in some other parts of Iowa.—H. E. EWING, *Ames, Iowa.*

Unusual December Birds at Branchport, New York

Although December, 1919, was a wintry month, with considerable zero weather, several species of our summer birds failed to take advantage of the opportunity to migrate with others of their kin.

Between December 16 and 23, I observed a Great Blue Heron braving the wintry winds out on the ice of Lake Keuka, while, nearby, a Kingfisher seemed to be admiring the Heron's stately, one-legged pose.

An active, noisy Robin is a visitor of our locust trees, and a Mourning Dove is a frequent visitor and feeder in a nearby barnyard.

December 23, about twenty Redwinged Blackbirds and Cowbirds flew about town. At the same time the weather was such that Siskins and Crossbills were numerous, and great numbers of Snow Buntings have been here since December 20.

Evening Grosbeaks were reported at Penn Yan on January 1 by James Flahive, therefore we may expect to have these aristocratic visitors with us this winter.—CLARENCE F. STONE, *Branchport, N. Y.*

The Golden-crowned Kinglet

In the November–December (1919) BIRD-LORE, page 361, some interesting data relative to the growing scarcity of Golden-crowned Kinglet has led me to review my notes on this species for the past few years. As a result, I find that it has become a scarce bird, locally. It is generally a common migrant and a few usually winter. However, last fall it was only seen on three dates, with not more than half a dozen individuals. I have taken several long tramps during the winter, (1919–20), visiting its former winter haunts, but have failed to find a single Kinglet.

It was abnormally abundant in the spring of 1917 and was very numerous the succeeding fall and well up into December. That winter (1917–18) was the severest Kentucky has known for many years. But few Kinglets were seen, after December, during the winter. During April, when they are usually so numerous, less than a dozen individuals were seen. It would seem that the severe winter of 1917–18 is in some measure responsible for the recent decrease in numbers of this species. —BEN. J. BLINCOE, *Bardstown, Ky.*

Prairie Chickens in Northern Indiana

Early on the morning of January 19, 1920, I was on a Pennsylvania train eastward bound from Goodland, Ind. Just west of the town of Walcott, a flock of Prairie Chickens, frightened by the train, rose near the railway track and flew away over the snowy fields. As near as I could count, there were ten birds in the flock. A half hour later I saw a second flock east of Monticello. I counted fifteen birds sitting in a snow-covered grain-field. I had long thought of the Prairie Chicken as practically extinct in this part of the country and was delighted to see so many in one day—had hardly seen so many, all told, for twenty years.

I thought, when I saw the birds, that they were migratory flocks, brought in by the unusually abundant snowfall in the Dakotas and in Minnesota, but am told by our Indiana ornithologists that they were probably resident birds. Bird students here say the species does not migrate. At first I thought them mistaken

as I knew the Prairie Chickens were migratory west of the Mississippi River, but have since found a statement by the A. O. U. that these birds do not migrate east of the Mississippi.

The locality where I saw the Prairie Chickens is a part of the original prairie region of the state and near the original eastern boundary of the species. If they were really resident birds, it seems certain that our game-protective measures, together with an enlightened public opinion, is surely bringing back this splendid bird to our Middle Western States.—W. A. SQUIRES, *Gary, Ind.*

Bohemian Waxwing in Northern Steuben County, N. Y.

I am glad to report the occurrence of the rare Bohemian Waxwing here in northern Steuben County, N. Y. They came on the wings of a terrific blizzard on January 18, and, on the morning of January 19, I found 24 of the Bohemians and one Cedar Waxwing feeding on the abundance of shriveled fruit in our choke-cherry hedge.

They were so tame that I approached within 10 feet while they flitted through the tangle of branches, at times flying toward me and alighting on the snow to eat the dried cherries that rattled from the bushes. During my close observations the Bohemians ate greedily and scarcely paid any attention to my presence.

During thirty years of active field bird-study, this is the first time I have noted this species. At the time of writing this (January 19) I can see the Bohemians from my window.—CLARENCE F. STONE, *Branchport, N. Y.*

King Rail in Winter

It occurs to me that possibly you might be interested in the occurrence of a King Rail in the vicinity of New York City in the winter time.

On February 8, 1920, when walking on the crusted snow through a small fresh-water marsh just outside of the city, I was surprised to start a bird of this species from a clump of matted reeds. I had a very good look at it as it ran over the snow, and there could be no doubt as to its identity.

On February 12 I again visited this marsh, and saw the bird. This time it ran out, as before, from almost underfoot, but managed, with great apparent effort, to take to the air. It came down in the reeds about a hundred feet away, quite close, as it happened, to a wandering boy and dog. The dog immediately gave chase, and the Rail, doubtless weakened by hunger, did not attempt to fly again. The Rail was overtaken after it had run a great race, but we managed to rescue it uninjured. After a careful examination, we released it.

Other birds I have observed this winter and consider unusual are: a Wilson's Snipe and eight female Red-winged Blackbirds on January 4; and a male Red-winged Blackbird, and a male with two female Rusty Blackbirds on February 12. —JAMES R. WEBB, *New York City.*

Nonpareil Wintering in Florida

While spending the winter in Daytona, Fla., there came, several times a day, to a feeding-station upon the ground, four female (or immature) Nonpareils, and fed on the mixed grains kept there. The first one I saw on February 5, 1919. Not knowing what it was, I took a book and turned to the Key for Sparrows, tracing it at once to the Painted Bunting (female). I had never seen one before, so hesitated to name it positively. On my way north I stopped at Charleston, and there visited the museum, where I saw good specimens of the Nonpareil. The female and the birds I saw in Daytona were identical. I also visited the new museum at Washington and again verified them.

Several bird-lovers, who had spent many winters in Daytona, came to see these birds, and all said they had never seen any like them. One gentleman (Mr. Stillman of Plainfield, N. J.) said he was positive there was no record of a Nonpareil in

Daytona, and as he was a careful bird student who had watched the birds there many years, I thought it might be worth sending this account.

After a few days two birds appeared, and six days from the time of seeing the first bird, there were four beautiful Nonpareils feeding several times a day. With the exception of two days of continuous high wind, we watched the birds daily from the window from February 5 to March 24, the last day of their appearance. The green of the head and back was very bright and in the sunlight the back took on a really metallic luster; wings and tail margined with deep green; under parts greenish yellow; eye-ring of the same greenish yellow, very distinct; bill less stout than many of the Sparrows; seed-eaters. One of the four was a much brighter green and looked a *trifle* larger than the other three. As they fed on the ground their green blended perfectly with the green of the violet leaves.

These birds, visiting this yard at Daytona, were no more shy than most of the other species frequenting the same feeding-station—Hermit Thrush, Thrasher, Woodpeckers (Red-bellied), Ground Doves, Cardinals, White-throats, Song Sparrows, Blue Jays and Mockingbirds.—MARY C. DODGE, *Worcester, Mass.*

The Purple Grackles Steal Their Suppers

After a three-day blizzard, on April 12, 1918, I counted 37 Robins feeding in the schoolyard which in spots had been swept clean of snow by the wind. Besides these Robins, there were at least 20 Purple Grackles and maybe 60 more up in the pines nearby. The Robins were busy catching their suppers, which consisted chiefly of worms, and they seemed rather successful.

The Grackles weren't doing as well and looked with envy, at the fat worms the Robins were pulling out of the ground. One of the Grackles, seeing a Robin right next to him pull up a worm, while he couldn't find any, darted down on the surprised Robin, who flew away, leaving his hard-earned prize for the crafty Grackle. This Grackle tried the same trick again, and was equally successful. Again he tried the trick with the same results. The other Grackles, getting the idea, began to try it, and some fifteen of them glided down from the pines. This gliding is one achievement in which they excel. If a dog hadn't run across the schoolyard just then, the Robins would have been chased off their hunting-grounds, but the Grackles, as they are frightened by the least disturbance, flew away.—G. GILL, *Sea Cliff, N. Y.*

A Rendezvous of Red-winged Blackbirds

Among other birds the Red-winged Blackbirds are, this season, more abundant than ever before about Iowa City. One of the favorite early-season congregating-places in this locality is a mud-flat about 100 yards long by 20 yards wide, near the west bank of the Iowa River, which at this point is within the city limits of Iowa City. In the process of its formation during the past several years, this flat has become thickly grown up with slender willow trees, 15 to 20 feet in height. Long, heavy water grass and rushes thickly cover the area between the trees.

On Wednesday, April 2, 1919, at 6.40 A.M., before the sun was up, I visited this place, among others, in my search for birds. The morning was cool and partly cloudy, with a light southerly wind. Upon approaching the willows, the sound produced by the great flock of singing Blackbirds attacted my attention, and as I drew nearer it became louder and louder until, at the very edge of the willow-covered mud-flat, the noise seemed almost deafening. The trees, grass, and reeds were literally black with the birds. Both males and females were present, and now and then a mating pair could be observed.

At irregular intervals of from a few seconds to a minute or more, groups of from 25 to 100 birds rose in the air and flew slowly away. At the moment of leaving, the whole flock in the trees and grass suddenly ceased singing for an instant

and then as suddenly began again. The sudden and uniform cessation of song at these periods was particularly noticeable. It was not until several such groups had left the willows that any diminution in the number of those remaining could be observed, so numerous were the birds. Judging by the size of these groups which thus left from time to time, I estimated—very conservatively, I feel sure—that at the beginning of my observation more than 5,000 Red-winged Blackbirds were present on this little willow-covered flat.

By 7.15 A.M. only a few hundred birds remained. Fewer and fewer of the flock returned each succeeding evening, so that, after two or three days following this observation, only about the normal number of birds was to be found at any time in this congregating-place.

No doubt the abundance of Red-winged Blackbirds, as well as many other of our common birds, is to be attributed, in part, at least, to the widespread influence of the various Audubon and other bird-protection societies scattered here and there over the country, as well as to the dissemination of bird-protection propaganda.—DAYTON STONER, *Iowa City, Iowa.*

THE SEASON

XVIII. December 15, 1919 to February 15, 1920

BOSTON REGION.—The winter of 1919–20 will long be remembered in eastern Massachusetts as a real, old-fashioned winter—periods of intense cold alternated with snowstorms. After January 9, the ground was covered by an increasingly deep blanket of snow; twice the temperature fell to 20 below, and on seven days in January the thermometer registered below zero. True to the typical New England winter, there was a January thaw (on the 27th; Temp. 50°) and a blizzard on February 5.

During this arctic weather we were visited by many northern birds. Evening Grosbeaks appeared early in January, and, two weeks later, Pine Grosbeaks began to arrive and increased in numbers until, in mid-February, the flocks were nearly as large and as numerous as during the last big flight in 1906–7. These birds settled at once in the same trees that they fed in thirteen years ago, so promptly, indeed, as to suggest that when these northern birds come yearly (as the Evening Grosbeaks do nowadays), it is their quick recognition of good feeding-grounds rather than their memory of special localities which brings them back to the same spots year after year.

Pine Siskins and Redpolls have been numerous all winter, in flocks of fifty birds or more sometimes, feeding most often on the seeds of the gray birch. Well-fruited birches, where these birds congregate, can be recognized at a glance, for they are soon surrounded by a brown area, so thickly are the bracts of the catkins scattered on the snow. Many Tree Sparrows and Goldfinches, and a few Juncos and Song Sparrows, have wintered here, and Blue Jays and Chickadees have been present in normal numbers.

In contrast to the roving flocks of Redpolls and Siskins, Song Sparrows spend the winter alone, or, at most, with one or two companions. Their winter quarters are always near dense shrubbery, or perhaps a pile of branches, where they are sheltered from wintry winds. Even a gale, filtering through the interstices of such a thicket, must lose its force when broken into innumerable draughts of air and become, toward the interior, progressively milder until in the midst there is a space where a bird can find a safe, calm roosting-place. Our forefathers applied this principle when they made their tin lanterns, punctured with countless, tiny holes.

The ground on which the Bluebirds

must find their food when they come north next month is now covered by two feet and more of the hardest ice and snow.—WINSOR M. TYLER, M.D., *Lexington, Mass.*

NEW YORK REGION.—These two months cover comparatively unchanging conditions of winter bird-life. Nevertheless, as is generally recognized, traces of the fall migratory movement may frequently, if not always, be observed later than December 15. Birds are often present at Christmas time which will be absent later in the winter; or they may even linger into the first week of January and then move on. Also, beginnings of the spring migratory movement may sometimes be noted as early as the middle of February.

The present season, a snowstorm on Christmas Eve ushered several weeks of white, cold, monotonous winter to the interior of the west end of Long Island. During this period the ground was almost continually, though thinly, snow-covered. Even the commonest winter birds were remarkably scarce. An unusually large flock (about 25) of Meadowlarks was noticed from the train, January 7, and as none was seen again during the month, the species probably left the vicinity about that date. Beginning ten days later, came recurrent storms, with general temperature gradually rising. The somewhat changed conditions were accompanied by an increase in Tree Sparrows and Juncos. One or two White-throated Sparrows appeared at Garden City. Four Field Sparrows appeared again January 22, in a vacant lot within the town, grown to tall grass (*Andropogon virginicus*), where half a dozen had been found December 25.

Following a three days' northeaster, with drifted snowfall the first week in February, on the 7th a small flight of Red Crossbills was noted and an increase of Horned Larks on the 'plains' near Garden City. February 8, a flock of about 20 Evening Grosbeaks was reported at Forest Hills (one, disabled, brought to the New York Zoölogical Park from there. —L. S. Crandall). On the 8th and 12th, Tree Sparrows had become generally abundant, Redpolls (Garden City, February 8 and 14; Forest Hills, February 12) and Goldfinches, previously absent, appeared scatteringly (3 or less together); on the 12th, Juncos were up to their usual number for the first time this winter, and Horned Larks were found inland at localities which they ordinarily do not visit. More remarkable is the presence on that date of about 15 Snow Buntings and a Lapland Longspur, feeding with Horned Larks inland, at Queens.

In short, there was a well-marked late winter wave of birds, throughout traceable with reasonable certainty to storms and snow. In the Field Sparrow and likely the White-throat, movement was probably very local, to a sheltered spot in town; in the case of the Larks, Buntings, and Longspur (all three of which had been present earlier in the winter at the ocean shore 8 to 9 miles south at its nearest point, and the first two of which only, in no great numbers, were found by observers at the shore on this date), there was more extensive movement, away from storm tides and coastal exposure; in the case of the Redpoll, and the Tree Sparrow as certainly, migration from more boreal localities.

At expense of a general summary, space has been given in this report to detailed, more or less personal, observations in one section of the New York region, because fluctuation of winter bird-life was unusually well marked and easily traceable. Not infrequently there is a late winter movement of uncertain relationship to the northward movement immediately following. Storms are to be expected, with rising temperature after the dead of winter, but in this case at least the wave of birds seems to have had no relationship to a spring movement, unless possibly species which migrate early, driven out by the last kick of winter, rebound on its retreating steps. Even a considerable flock of Red-winged Blackbirds, February 12 (Englewood, N. J., both sexes.—L. Griscom), should rather be considered waifs from more inhospitable territory

than spring arrivals, as also a flock of 11 Cowbirds which visited Bronx Park, February 5 (preceded by a single female, February 3, leaving a few emaciated stragglers, February 10.—L. S. Crandall).

On the afternoon of February 8 the clear, incisive song of a Meadowlark was heard, repeatedly ringing out over the snow at Garden City, though none had been seen for a full month past.—J. T. Nichols, *New York City*.

Philadelphia Region.—An 'old-fashioned winter' arrived early in December, and, up to this time, February 11, shows no sign of leaving. There have been few days this winter that there was not some snow on the ground. Rainstorms, ice-storms, hail-storms, and snow have followed each other in rapid succession. On February 4 a three-day storm, which at times assumed the proportions of a genuine blizzard, came, leaving 8 inches of snow and hail on the ground, which, owing to the high wind, drifted to considerable extent, tying up traffic and delaying train service. Seldom, indeed, has a winter produced more beautiful effects in so great profusion: Ice-storms when all nature was wrapped in a diamond-studded robe, only to be supplanted in a day or so by a thick blanket of soft, clinging, wet snow, which, quickly melting under the bright sun, left all brown and bare for a short space, then a heavy fog with a temperature just cold enough to freeze coating everything with a frosty sheet of frozen mist.

At Seaside Park, N. J., December 21, a few days after the first tight freeze, when Barnegat Bay was found to be frozen from shore to shore, several flocks of Canada Geese, about 60 in all, were noted flying over the Bay, high in the air, heading south. A dozen Black Ducks and as many more Scaups were sitting on the ice, well out from the shore. These, together with 200 Herring and Ring-billed Gulls, also on the ice, were about all the birds observed on the Bay. A single Snow Bunting was found on the ocean beach; in a growth of cedars a Red Crossbill.

Doubtless, the winter has taken a more than usual toll of bird-life, yet few dead birds have been found. However, it must be remembered that such objects are meat for the starving and do not lie around very long. It is interesting to discover just where the hungry host of birds procure their food under such adverse weather conditions. Starlings and English Sparrows resort in large numbers to the city dumps. Tree Sparrows, Juncos, and White-throated Sparrows, in mixed flocks, seek the open fields where the tall weeds extend above the snow. Song Sparrows, singly and in pairs, are found about the open springs and streams, gleaning close to the water's edge. A Purple Finch chirps in a tangle of honeysuckle, and you discover him feasting on the dried berries. A Cardinal looking much out of place in the top of a tulip poplar, is dining on the few remaining seeds. A Ring-necked Pheasant is flushed from his breakfast of burdock seeds, leaving the prickly husks scattered about on the crusty snow. Groups of Crows stand and walk about the edge of the tidal streams, waiting for low water and a streak of bare mud where food may be had. On January 11, while watching a group of winter birds, which in this case was composed of 4 Brown Creepers, 1 Red-breasted Nuthatch, and 2 Golden-crowned Kinglets, the Creepers suddenly changed their usual method of tree-trunk investigation and flew from one pine-cone to another, apparently seeking the hibernating insects and larvæ lodged there, as they only chose the old, black, discolored cones. This may be a common practice when the birds are working among pines, but, nevertheless, it is of interest.

The rarer northern Finches continue to be the most interesting feature of the season. In addition to those mentioned in the October and November report, Redpolls and Evening Grosbeaks have been reported at several localities, the latter mostly individual birds at widely separated points.

There appears to be an unusual scarcity of Winter Wrens, and Northern Shrikes seem to be entirely absent in this district.

Truly, the descendants of the Rock

Pigeon are becoming thoroughly domesticated. A short time ago one was seen to fly up from the street and settle on a passing electric car; the car continued on down the street, the bird sitting there with the utmost unconcern, and it was still in the same position when lost to view.

On February 9, while crossing the Delaware River on a ferryboat, a Duck Hawk was observed. This bird darted down after a Sparrow near the ferry-slip, but the Sparrow escaped by a narrow margin and ducked into the ferry-house. The Hawk then turned and flew out to the middle of the river where it met another Hawk of the same species. A friendly sparring-match took place between them, accompanied by a series of cackling notes. Then, as if by mutual agreement, they flew off rapidly up the river toward a grain elevator, where they dashed into a flock of Pigeons, with what success could not be determined as the birds at this time were too far distant.—JULIAN K. POTTER, *Camden, N. J.*

WASHINGTON REGION.—Notwithstanding protracted cold weather, the ornithological happenings about Washington during December, 1919, and January, 1920, were little out of the ordinary. Birds, as a whole, were about as numerous as usual, but, in spite of the severe winter, comparatively few of the rarer northern birds put in an appearance. However, the Northern Shrike was noted in the northern part of the city of Washington, on Jan. 26, 1920, by Dr. G. W. Field, and the American Crossbill at Mount Vernon, Va., on Dec. 27, 1919, by Messrs. Wetmore, McAtee, and Preble.

On the other hand, the Ruby-crowned Kinglet, which is a rare and irregular winter resident about Washington, was seen at Mount Vernon, Va., on Dec. 27, 1919. A Gadwall was reported on Dec. 27, 1919, also, by the same observers; a King Rail on Alexander Island, Va., Dec. 4, 1919, by Mr. E. A. Preble; a Long-billed Marsh Wren along the Anacostia River, December 21 and 28, by Mr. Francis Harper, are likewise worthy of record.

The European Starling has been fairly common about Washington and the neighboring country, appearing in many places in flocks, and, apparently, is more numerous than for two or three winters past. Near Falls Church, Va., on Jan. 25, 1920, a flock of 20 was observed by Mr. W. W. Diehl, eating persimmons. The birds obtained the fruit by pecking it from the branches and allowing it to fall, then flying down and eating it on the ground.

Several thousand Ducks of several species, mostly Golden-eyes and Scaups, have remained in the Potomac River, chiefly below Alexandria, during the entire season, some of them ascending as far as Washington during the milder weather. Apparently they are fully as numerous as they were last winter.

A large roost of Crows in the northern outskirts of the city, near Brookland, has been fully occupied during the present winter, and is probably as large as it has ever been. It accommodates practically all the Crows that feed in the vicinity of Washington and is estimated to contain at present some 200,000 birds.—HARRY C. OBERHOLSER, *Biological Survey, Washington, D. C.*

KANSAS CITY REGION.—Unbroken periods of zero weather of more than a week or ten days' duration are unusual in this immediate region. The current period, up to February 1, has been marked by over five weeks of almost continuous cold, during which time two severe ice-storms developed, making conditions intolerable for the less hardy species. The Missouri River, though at its usual low winter stage, has fortunately remained open in the main channel, affording congenial winter quarters for numbers of Mergansers (at least 40 in Jackson County), 2 Black Ducks, and a solitary Loon. These birds have been under observation since the middle of December, and have afforded ample opportunity to verify the fact that Mergansers remain mated throughout the winter. Two Bald Eagles, one an adult and the other in immature plumage, have been frequently seen in the same general

region with the water-birds. These are the first Eagles to appear in this region for many years. The bottomland thickets and timbered shelters do not harbor the smaller birds in their usual winter abundance. Save for Pine Siskins, Goldfinches, Juncos, and a few large flocks of Crossbills, the Fringillidæ are represented by stragglers only.

The event of the winter has been an unprecedented invasion of Bohemian Waxwings. One flock of about 175 individuals, from which four specimens were taken, was noted in the bluff region of eastern Jackson County, while flocks aggregating 600 birds have been reported from Holt County (Dankers). A species of no less local rarity, the White-winged Crossbill, has also been seen on several occasions. The writer has seen two in a flock of Crossbills, and others have reported seeing specimens.

The arrival of the Bohemian Waxwings in early January was coincident with a noticeable southern movement of Canada Geese, Meadowlarks, Robins, and Bluebirds. The birds had no doubt been spending the winter in the up-river country not far away. The first Short-eared Owls of the winter were found during this period. They, too, had evidently only just moved in, as their roosting-ground in high grass was only sparsely littered with pellets. A few Mourning Doves were found during the second week of the month making their headquarters in a small patch of hemp. Numbers of Siskins and Crossbills were also feeding on the fat seeds, and there could hardly have been a sufficient supply to last this crowd another week.

The first week in February was warm, and as is usual at this time, when no storms threaten, the early restless movements of north-bound water-birds was witnessed. Robins and Bluebirds were also noticeably more numerous.

The writer confesses to no great familiarity with the Grebes, yet this will hardly serve as an excuse for calling the Horned Grebe an Eared Grebe, as was done in the last letter from this point. It should have been stated there that the former bird had been added to the local list, and that it breeds occasionally in Nebraska.—Harry Harris, *Kansas City, Mo.*

Minnesota Region.—The two-months period covered by this report opened on the morning of December 15 with a temperature of −10° at Minneapolis and −24° at Duluth. This weather continued for several days, with almost daily or nightly snowfalls. Somewhat milder weather prevailed during the final week of December, with two or three days when the snow melted a little at noon and settled rapidly under high, dry winds, but the new year opened with another cold 'snap,' −12° at Minneapolis on the 1st and −17° on the 2d. The month continued cold and snowy, with many subzero days, interrupted only occasionally by warmer, sunny days, the warmest being on the 29th when a maximum of 38° was recorded at Minneapolis. February has been continuously cold thus far, with a temperature of −18° on the 14th and −19° on the 15th at Minneapolis. The winter has been steadily cold, with no very marked January or February 'thaws,' and yet with no exceptionally low temperatures. An unusual amount of snow has fallen, especially in the northern part of the state. For this reason it has been a hard winter for the birds, particularly the ground-feeding and weed seed-eating species.

Several of the Museum's correspondents have commented upon the scarcity of birds this season, while others seemingly have considered conditions as to resident species about normal. On the whole, it would appear that fewer birds have been noted than last winter, which, however, was an exceptionally good year considered from the observer's standpoint. But, compared with two years ago (winter of 1917–18), when all bird-life, including the commonest species, was at the lowest ebb known here, there has been a marked improvement.

A notable feature of the winter, in spite of the continued low temperature and deep snow, has been the presence in the state of a considerable number of birds

commonly considered as only 'half-hardy.' Most of the reports of such species have come from the southern half of the state, but a few are from localities much farther north than heretofore recorded. More and keener observers and a more active campaign in search of winter bird-notes may be the real explanation of these seemingly exceptional occurrences. Brown Creepers have been present all winter in the southern half of the state, and O. J. Murie reports that some individuals of this species are wintering as far north as Moorhead, on the Red River of the North, only a little south of latitude 47°. Tree Sparrows, Juncos, Goldfinches, and Purple Finches have been reported from the southern portion of the state; Red-headed Woodpeckers from Red Wing (Mrs. Green and Miss Densmore), St. Paul (Thompson), Cannon Falls (Swanson), and Rochester (Mrs. MacCarty); Golden-crowned Kinglets from Martin County (Dr. Luedtke), and Fillmore County (Dr. Hvoslef); a Robin at Moorhead, December 12 (Murie), and one at Minneapolis December 27 (Zeleny); two Flickers at Moorhead January 8 (Murie); a Rusty Blackbird at Fosston, far up in the Red River Valley, January 2 (Miss Torgerson), and three wintering at Pipestone (Peterson); a Red-winged Blackbird at Fosston January 2 (Miss Torgerson); and Bronzed Grackles at Duluth, December 18 (Green) and at Fosston in January (Miss Torgerson). Cardinals have been wintering at Red Wing (Miss Densmore), La Crescent (Whit Harrison), and Lanesboro (Dr. Hvoslef). It should, perhaps, be stated that competent observers, though greatly increased over former years, are still so few in number and so widely scattered over Minnesota's more than 84,000 square miles, that these notes can only be regarded as fragmentary and merely suggestive of actual conditions.

Of winter bird visitants only brief mention will be made here. Goshawks have been reported from only four localities. There has, however, been a considerable influx of Snowy Owls, as reports have been received from nineteen stations in all parts of the state. Of Great Northern Shrike there are only four records, widely scattered. An early and extensive incursion of Bohemian Waxwings has been an interesting feature of the present winter. In a few places they have remained constantly and been fairly numerous, as at Moorhead (Murie). Pine Grosbeaks have been reported several times, none farther south than Minneapolis. Redpolls, as usual, have been common all over the state. Evening Grosbeaks have been reported from only nine localities, all in the northern two-thirds of the state. None have yet appeared in the southern portion, where they were, in former years, a frequent and common winter visitant. At Wadena (Mrs. Bigelow), Staples (Mrs. Young), and Brainerd (Mrs. Thabes)—localities near together in the central part of the state—it has been present for some time in large flocks. Apparently, the Evening Grosbeak is no longer the regular visitant in large numbers throughout Minnesota that it was twenty-five to thirty years ago. It would appear from the increasing number of New England records that the principal southward movement of the species is now directed toward the North Atlantic States. The box elder trees, upon the seeds of which this Grosbeak feeds so extensively in winter, and which formerly lined the streets of most Minnesota cities and towns, have largely died out or been removed. But as this tree is here everywhere abundant in the wild state, this fact should not have any material effect upon the food-supply, though, possibly, it would remove from easy observation a considerable number of the birds and make them seem scarcer than they really are.—Thos. S. Roberts, *University of Minnesota, Minneapolis, Minn.*

Denver Region.—The weather conditions in this region during the past two months have been exceedingly variable—extreme cold in December and mild in much of January and February. There has been no prolonged condition of deep snow, and it appears to the writer that with

these circumstances there has been a scarcity of birds, a scarcity showing itself more in the number of individuals than in the number of species.

It would appear that under such mild conditions, with the scarcity of snow, many birds can find sustenance almost anywhere in the outskirts of the city and in the immediately surrounding country, and therefore do not come into the city and its parks as abundantly as they do when snow covers the low weeds, etc., in the suburban districts. There has been noted a somewhat unusual number of Hawk species. Thus, on Christmas Day, a Sparrow Hawk, a Prairie Falcon, and a Richardson Merlin were seen in Denver, which, together with the presence of Owls, may help account for the small number of Juncos, etc., seen in the city. There is no doubt but that these predaceous birds were probably also more common in the territory immediately surrounding Denver. It is still a source of wonder that Clark's Crow should remain in the vicinity of Denver all winter; a pair has been seen several times in the city since December 15. Both of these birds had very dirty plumage, probably from the dirt and smoke of the city; in fact, they looked almost black, and one identified them, at a distance, only by their white markings, as seen in flight, and their characteristic call. While there is no way of settling the question, it seems to the writer that these Clark's Crows are but a single pair, seen at different times and in different places. These birds were last seen in the neighborhood of my house on February 15.

The season now under consideration can be compared with that of past years by taking any given day and noting the birds seen at such a time. The Christmas Census data collected during the past eight years will be as representative as that of any other day of the same period. Thirty-seven different species have been seen on Christmas Days of the years 1912 to 1919 (inclusive). There are 8 species which have been seen yearly on this day (or have been present at least 75 per cent of the days): Ring-necked Pheasant, Orange-shafted Flicker, Desert Horned Lark, Magpie, Red-winged Blackbird, Tree Sparrow, Pink-sided and Gray-headed Juncos. In other words, one can reasonably count on seeing these 8 species on almost any day in the winter-time, in the vicinity of Denver. On the other hand, 14 species were observed but once on Christmas Day during these eight years; they are: Great Blue Heron, Mourning Dove, Marsh Hawk, Saw-whet Owl, Screech Owl, Downy and Lewis's Woodpeckers, Long-crested and Woodhouse Jays, Yellow-headed Blackbird, Redpoll, Slate-colored Junco, Brown Creeper, and Townsend's Solitaire. An examination of this list of 37 species shows that 8 are either uncommon at all times or very erratic in their visitations; these are: Richardson's Merlin, Saw-whet Owl, Redpoll, Slate-colored Junco, Brown Creeper, Townsend's Solitaire, Lewis Woodpecker, and Yellow-headed Blackbird. Furthermore, 3 species, Great Blue Heron, Mourning Dove, and Sparrow Hawk, are prone to be here only during mild winters, and, contrariwise, 2 species are more apt to visit this neighborhood during severe winters, that is to say, the Redpoll and Cassin's Finch. Seven others of these 37 species one can possibly see on any winter day in this area, but, in truth, it must be said that one might have to institute a patient search for them in suitable places in order to be successful; these are: Marsh Hawk, Prairie Falcon, Screech Owl, Downy Woodpecker, Song Sparrow, and Long-crested and Woodhouse Jays. Many others of these 37 species have been observed here in mid-winter, but on two or three occasions only. In all probability these birds were present each year on Christmas Day, but lack of time or adverse weather conditions, or both, prevented a search thorough enough to reveal them. In this list may be included American Rough-legged Hawk, Long-eared Owl, Hairy Woodpecker, Meadowlark, Great Northern Shrike, Shufeldt's, Mountain, and Grey-headed Juncos, and Long-tail and Mountain Chickadees. The 4 species occurring in the greatest abundance in this season are Red-winged

Blackbird, Desert Horned Lark, Magpie, and Tree Sparrow. Of these 4, it can readily be seen that 3 are residents throughout the year, and 1 a winter visitor only. On Christmas Day, 1912, only 5 species were seen, due to inclement weather preventing an extended search, while on the same day, in 1919, 19 species were seen, notwithstanding that the early part of the month of December had been extremely cold. While weather conditions make a difference in the lists gathered, yet it seems to the writer that the thoroughness and extent of search make a greater difference. One can say from the brief review of this season's bird-life, during the past few years, that it was, in 1919, somewhat out of the ordinary. Thus one learns that of the 37 species seen during eight years, seven were noted for the first time; why this happened to be one cannot say. Perhaps it was pure luck. This large number of birds new to that date, together with the fact that only once before were as many as 19 species seen on Christmas Day, gives color to the idea that the season just passed has been out of the ordinary.—W. H. Bergtold, *Denver, Colo.*

San Francisco Region. — Wintry weather in the bay region lasted from Thanksgiving Day until January 9, with occasional warm days to relieve the monotony of cold north winds. Unusual bird records are expected when such cold visits us, for it means that birds are driven down from the higher altitudes where the weather is much more severe. This may account for the numerous records of Sierra Crossbills which have been sent in from Carmel, Pacific Grove, Golden Gate Park, Berkeley, and other points, as also for the early flocking of Western Robins in this vicinity.

All the winter visitants have been noted this year, with the exception of the Golden-crowned Kinglets, which were surprisingly abundant during last winter, but seem to be missing so far this year. In Berkeley, Juncos, and Pine Siskins have been present in very large flocks, Bluebirds have been seen more often than usual, while Pipits, Varied Robins, Red-breasted Nuthatches, and Western Winter Wrens have been quite common. On a certain brushy hillside to the south, a little coterie of Western Gnatcatchers has remained since October, while farther north a House Wren, more hardy than most of its tribe, has been resident for the third winter.

After January 10 the weather was very mild, so that now (February 1) wild currant is in full bloom and almond trees, Japanese quince, and many blossoming shrubs are radiant with color. The Anna Hummingbird is in fine feather as he buzzes about these blossoms. He still has them to himself for a few days until the Allen and Rufous Hummers arrive to compete with him for the supply of honey. Many of the permanent residents are singing freely. In the cañons, California Thrashers, Titmice, Vigors Wrens, San Francisco Towhees, Hutton Vireos and Flickers are all tuning up, while the Meadowlarks make the open fields resound. The Nuttall Sparrows are withdrawing from the flocks of Intermediate Sparrows and sing constantly near last year's nesting-sites.

On Lake Merritt, in Oakland, the Ducks, Gulls, and Grebes make a wonderful show. Pintails and Canvasbacks predominate at this season, the former on the lawns and the latter on the lake. Baldpates and Shovellers wander about on the grass like chickens, while Lesser Scaup and Ruddy Ducks, Eared Grebes, and Coots add their forces to those of the Canvasbacks. Golden Eyes, Bufflehead, and Green-winged Teal are present also, and many Killdeer feed along the shore. On Lake Merced, in San Francisco, a flock of a dozen Whistling Swans have delighted the hearts of bird-lovers in this region.—Amelia S. Allen, *Berkeley, Calif.*

Book News and Reviews

Bulletin of the Essex County Ornithological Club. Vol. 1, No. 1, Dec., 1919. Salem, Mass. 55 pages; 1 linecut.

The Essex County Ornithological Club, organized April 10, 1916, presents in this, its first bulletin, a history of the Club, a record of its regular and field-meetings, together with papers on 'The Identification of Hawks in the Field' by Charles W. Townsend; 'Coöperative Effort in Bird-Study,' by Arthur A. Osborne; various notes and an account, by Ralph Lawson, of 'Thirteen Ipswich River Bird Trips' in the first of which the Club had its origin. The story of these party trips bespeaks the good fellowship born of community of interests and shows how even an annual function may work its influence throughout the year.

The membership roll of the Essex County Ornithological (why not Bird?) Club and the record of its activities indicate that it has before it a long and useful life.—F. M. C.

The Raptorial Birds of Iowa. By Bert Heald Bailey, M.S., M.D. Bulletin No. 6, Iowa Geological Survey. Des Moines, 1918. 238 pages; numerous maps and illustrations.

The economic status, general habits, distribution and bibliography of the forty species and subspecies of Hawks and Owls recorded from Iowa are here presented at length. There are photographs of, for the greater part, excellently mounted specimens in the Coe College Museum, of which Dr. Bailey was curator, and maps recording the distribution in Iowa of the birds treated. The whole forms an admirable monograph of a group of birds of great economic importance, concerning the value of which the public cannot be told too often.

Dr. Bailey unfortunately did not live to complete the manuscript of this work, and it was brought to completion and edited by his colleague, Miss Clementina Sinclair Spencer.—F. M. C.

Bird-Houses and Nesting-Boxes. By Edward Howe Forbush. Circular No. 10, Massachusetts Department of Agriculture. 28 pages; numerous illustrations.

Outdoor Bird-Study. Hints for Beginners. By Edward Howe Forbush. Circular No. 12. Massachusetts Department of Agriculture. 51 pages; numerous illustrations.

Here are two publications of practical value to students and lovers of birds. Mr. Forbush knows his audience by actual contact and has in a marked degree the gift of meeting its wants. We hope that these two bulletins will have a wide circulation, not only in the state which we have to thank for them, but throughout the Union.—F. M. C.

The Birds of Red Deer River, Alberta. By P. A. Taverner. From 'The Auk,' xxxvi, 1919, pages 1–21; 248–265; plls. 4.

The Birds of Shoal Lake, Manitoba. By P. A. Taverner. 'The Ottawa Naturalist,' xxxii, 1919 pages 137–144; 157–164; xxxiii, 1919, pages 12–20.

The first of the above-mentioned papers is based chiefly upon field work between June 25 and September 26, 1917, when a voyage of nearly 200 miles was made by Mr. Taverner and his assistant, Mr. C. H. Young, down the Red Deer River. Eleven camps were established at different places as bases from which to work the adjoining territory. There is an excellent description of the region traversed and a well-annotated list of 194 species.

Mr. Taverner's studies of Shoal Lake birds were made by himself and Mr. Young for a short period in the spring and fall of 1917 and were supplemented by Mr. Young's observations and collections from April 23 to October 2, 1918. Access to the notes, published and unpublished, of other observers gives a total of 212 species for the district.

It is difficult for the reviewer to recognize in the photograph on page 139 of the far-stretching, boulder-strewn shore

of Shoal Lake in 1917–18, and doubtless today, any resemblance to the Shoal Lake he knew in 1901, with a margin of quill-reeds, so wide that in places one could not see open water from the shore of the lake. Since that date, Mr. Taverner writes, the water in the lake has fallen from 8 to 10 feet and the shallow margins in which the quill-reeds grew and countless Coots, Grebes, and Yellow-headed Blackbirds nested are now "broad reaches white with alkali crystals." Mr. Taverner adds: "Of the vast numbers of birds that once threaded the mazes of the marsh, practically none remain but the few that are restricted to the borders of the rapidly disappearing pools back from the shore." The transformation is as sad as it is interesting.—F. M. C.

The Ornithological Magazines

THE AUK.—The first thirty-two pages of the January number comprise 'In Memoriam: William Brewster,' by Henry W. Henshaw, followed by other articles dealing with Mr. Brewster. His photograph, reproduced as Plate I, is excellent, and such of the younger ornithologists as knew Mr. Brewster comparatively little personally will find interest and inspiration in the account of his life. A 'William Brewster Memorial' has been placed in the hands of the American Ornithologists' Union, the income from an established fund of $5,000 to be used in recognition of "the most important work relating, in whole or in part, to the birds of the Western Hemisphere," with the 'Brewster Memorial Medal' and an honorarium. We have here some slight tribute by American ornithologists to the passing of a great leader.

In 'Sequestration Notes,' by J. Grinnell, from observations of the Audubon Warbler and Ruby-crowned Kinglet, it is concluded that their call-notes functioned to keep the birds apart, give each individual monopoly in a certain feeding-area, to the common advantage. Many field students will call to mind similar observations, and the conclusion is so logically drawn as to carry conviction. It may only be questioned whether such calls, *per se*, have special 'sequestration' significance, or whether the ordinary call-note, with a more general advertisement-identification significance, has sequestration value in some cases. At the very least we have here a tangible hypothesis, a valuable asset in pursuing the elusive subject of bird-language. In 'The Occult Senses in Birds,' H. H. Beck suggests a food-finding (example Vultures) and mate-finding sense similar to the homing sense, already the subject of so much interesting study and speculation. There is obvious advantage in designating certain inexplicable phenomena by these terms until further analysis of them is possible.

In 'In Memoriam: Lyman Belding' (illustrated by a photograph, Plate III), by A. K. Fisher, quotations from a manuscript autobiographical sketch which Belding completed shortly before his death, are of great interest. He was eighty-eight years old at the time of his death, and his memories of wild life in the early days are correspondingly valuable.

There is the usual quota of papers more or less faunal in nature: from the Catskill Mountains, Cobb (descriptive appreciation of a rich bird country); from Texas, Griscom (critical notes supplementing earlier published lists); from Colorado, Lincoln (an annotated list of the birds of the Clear Creek district); from South Carolina, Wayne (remarks of interest on a few species). Farley presents details of the life of Sanderling and Red-backed Sandpiper while wintering unusually far north, at Plymouth, Mass. 'Bachman's Warbler breeding in Alabama,' by Ernest G. Holt, is accompanied by a photograph of nest and eggs of this rare bird. A critical study of the races of the Canada Goose leads J. D. Figgins to suggest that a large (*canadensis*) and small (*minima*) species alone be recognized, other specimens to be considered as hybrids. New species and subspecies are described by Cory, a race of the Killdeer breeding in Peru, by Chapman. We may now consider our Killdeer the northern representa-

tive of a South American bird, which fits better with its habits than to associate it with our highly migratory Plovers. Loomis has a paper on a matter of Petrel nomenclature. Palmer chronicles the thirty-seventh meeting of the A. O. U.

In general notes there is the usual variety of unusual occurrences: S. C. Arthur reports that a captive Blue-winged Teal, with the white marking characteristic of the recently described southern race, after a time lost this marking by moult. Miller and Griscom refer to Mourning Doves breeding in southwestern Maine, supposed to be Wild Pigeon; an old pigeon-hunter, in fact, did not credit their identification of these birds as Doves. R. Latham recounts an instance of Chimney Swifts resting in a heavy growth of brush; one was seen eating elder-berries, but, in his opinion this was merely incidental, the spot being used as a roost. W. L. McAtee presents evidence of birds being diverted from depredations on fruit by abundance of periodical cicadas on which they were feeding. —J. T. N.

THE CONDOR.—Of the eight general papers in the January number of *The Condor*, Mrs. Bailey's 'Return to the Dakota Lake Region' and Henshaw's 'Autobiographical Notes' are continuations of articles in the previous volume. The present chapter of the biography is especially interesting since it reviews Henshaw's active field-work in Colorado, Arizona, and California, and his early acquaintance with Baird, Bendire, Merriam, and Nelson. A brief sketch of 'Edward Garner, a Pioneer Naturalist,' taxidermist of Quincy, Plumas County, Calif., is contributed by H. C. Bryant, who states that Garner's collection of birds was exhibited at the Panama-Pacific Exposition in 1915 and is now deposited in the Quincy High School. Eight of the specimens which form the basis of important local records are specially mentioned.

The 'Importance of the Blind in Bird Photography,' illustrated by six figures, is discussed by Frank N. Irving, who gives directions for the use of beginners in this branch of field-work. An account of the 'Rusty Song Sparrow in Berkeley and the Return of Winter Birds' is given by Mrs. Amelia S. Allen. A Yakutat Fox Sparrow, which had been banded, left on April 21, evidently to spend the summer in Alaska, but returned to the same spot in Berkeley on November 3, thus furnishing another interesting record of the habit of certain birds to return to the same place after a long migration. 'A Peculiar Feeding Habit of Grebes,' is described by Wetmore who has found quantities of feathers in the stomachs of these birds. He suggests that the habit of swallowing feathers is developed mainly in species which feed on fish, and that the feathers "act as strainers that prevent the passage of bones and scales into the intestine until they have been properly digested."

In 'Notes on the Limicolæ of Southern British Columbia,' Allan Brooks lists 38 species that have been recorded from this region and makes a plea for more attention to this group of birds, which promises much in advancing our present knowledge of the distribution and migration of several species. A 'Description of a New *Otocoris* from California' is given by H. C. Oberholser, who bases the new form (*Otocoris alpestris sierræ*) on a specimen collected by A. S. Bunnell, June 13, 1906, at the head of Pine Creek in Lassen County.

Among the brief notes are four remarkable records of Clark's Nutcracker showing the occurrence in 1919 of this mountain-loving species near Indio, below sea-level on the Colorado Desert, in October, on board a steamer at sea between Los Angeles and San Francisco in September, and at Carmel and Point Pinos, in Monterey County, in November.—T. S. P.

Bird-Lore

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Bird-Lore's Motto:
A Bird in the Bush Is Worth Two in the Hand

RECENT experiences have impressed us anew with the vagueness with which most people see birds. This is due to hasty, inadequate, and careless observation, to ignorance of what may be called the topography of a bird, to a lack of training in the art of seeing things accurately and in detail, and to the difficulty with which most birds may be studied at short range.

It is, of course, the last reason which has prevented birds from becoming more widely known. But it is the very elusiveness of birds which makes bird-study so fascinating. They appeal not only to our desire to know, but to our inherent love of the chase. Surely no bird student who has experienced the thrill of following strange calls and songs would ever want to pursue his study in an aviary!

With some exceptions, therefore, we may accept the shyness of birds as a lasting characteristic and we may accept it also as a characteristic which demands care and patience on the part of the field-student if he hopes for success. In this fact, indeed, we have no small part of the educational value of bird-study, even when bird-study means merely naming birds out of doors.

This study should, when possible, be preceded by a sufficiently detailed examination of the bird to enable one to become familiar with the meaning of the terms which are used in descriptive ornithology. 'Wing-bars,' 'primaries,' 'secondaries,' 'coverts,' 'back,' 'rump,' 'breast,' 'crown,' 'flanks' 'shoulder,' 'bend of the wing,' etc., should all become definite terms conveying an exact meaning. Failing access to specimens, to Pigeons, or even Chickens in the flesh, examine carefully the diagrams of birds which are given in most bird books. How can one hope to describe a bird with any degree of exactness if one is neither familiar with the proper descriptive terms nor knows how to apply them? Simply because we know that a bird has a head, body, wings, tail, and feet, it does not follow that we are prepared to describe accurately its color-pattern any more than we could accurately describe an airplane because we know that it has planes, an engine and fusilage.

Definite knowledge of the plan of a bird is a great aid to correct observation in nature. With such knowledge we shall be far less likely to describe the male Red-winged Blackbird as 'red-breasted,' to say that a Flicker has a white back, or a Myrtle Warbler a yellow breast, while the blue birds with red heads, green wings and pink tails would become nearly, if not quite, extinct!

But beyond all this is needed that care and patience in looking at a bird which permits one to write a fairly detailed description of it, or, far better, draw and color an outline of it. This, it is true, cannot always be done, but, as we have said, therein lies half the charm of the study of birds in nature. Certainly no one would care to pluck birds as he would blossoms!

After the above was written it was discovered that Dr. Allen, in the immediately succeeding pages, had also taken for his text the subject of accuracy of observation in the study of birds. Prompted by his experience as a teacher, he dwells not only on the importance of accurate observing in naming birds in nature, but also upon its value in training one to see other things as well as birds. "It is not sufficient," he writes, "that the child's eyes be opened; it is necessary that they be trained to see," and if, through an interest in birds, this end can be achieved, then, indeed, is the pupil doubly fortunate.

The Audubon Societies

SCHOOL DEPARTMENT

Edited by A. A. ALLEN, Ph.D.
Address all communications relative to the work of this department to the Editor, Cornell University, Ithaca, N. Y.

KEEPING TRACK OF THE BIRDS

From the whole field of nature one can select no more engaging study than that of bird-migration. The brilliant colors of birds, their sweet songs and their interesting habits please us and invite to further study, but the mystery that enshrouds their travels will always hold us fascinated. The strange calls from the clouds by night, the passage of the well-formed flocks of Ducks and Geese by day, the flash of new wings through the garden, and the sound of familiar voices each spring inspire us to marvel at the power and precision of the guiding sense that draws birds back each year to their homes of the previous summer. Every August the Bobolink, leaving the fields of the northern states, travels 5,000 miles to the pampas of Brazil and, on schedule time, comes back the following May and hovers over the same fields and alights on the same fence-posts.

It is not surprising that this phase of bird-study has fascinated mankind, and that governments employ scientists to study and investigate it, and that thousands of people, scientists and laymen, spend much time following the birds in an effort to learn their secret. The sport of bird-study never grows old; it never grows monotonous; and grown-ups join with the children in the competition to see the first Robin, the first Bluebird, and the first of each species in its turn. The return of the birds in the spring takes thousands of people into the woods and fields to enjoy nature and affords to many the inspiration for keeping a journal of passing events. The accurate recording of one's observations is something to be greatly encouraged, and many a fine trait in man and woman develops from such a habit started in school. The majority of school children will doubtless never continue their studies of birds far enough to add much of value to the volume of ornithological knowledge, but this is no reason why they should not receive the benefits to be derived from learning to observe accurately. They should, therefore, be encouraged in every way to follow the return of the birds from day to day and to record their observations on some form of a bird-calendar. Incidentally, the teacher will find that the keeping of a bird-calendar in the schoolroom is one of the simplest and most profitable ways of stimulating bird-study, and it is the object of these paragraphs to suggest ideas for their use.

There is a feeling among some people that mere interest in birds is sufficient to lead a child to all the benefits that can be derived from their study. While

it is true that the child's interest is the primary and essential thing to awaken him and open the door to a great storehouse of pleasure and resource, this interest can well be utilized by the teacher to inculcate the most fundamental of all teachings, *accuracy of observation.* It is not sufficient that the child's eyes be opened; it is necessary that they be trained to see. The man who sees accurately understands what he sees, and makes a success of life instead of a failure. A judicious use of a bird-calendar, with emphasis laid upon the accuracy of the records, will not only arouse interest in bird-study and maintain it, but also will give to the children a most vital training. It is a matter of common knowledge that the active imagination of a child will lead him to see almost anything that he is expected to see or wishes to see without any intentional dishonesty on his part. As a result, he often reports impossible observations of birds out of season or birds not found in the locality, and, unless the teacher is circumspect, these observations are given equal value on the bird-calendar with more commonplace but correct observations. It should not be necessary for a teacher to know all of the birds himself or the proper time of arrival of all of them before starting a bird-calendar in his school. What is important is that he should cultivate an attitude of accuracy himself and impress the children with the need of it. Many a fine bird-calendar has fallen short of its full usefulness because the teacher has not dared to question the children's observations and has allowed inaccurate reports, intentional and unintentional, to appear upon it.

There are available, for most localities, local lists of the birds known to be found in that part of the country. Many of these local lists give the average date of arrival of each bird. If a teacher can refer to such a list he can quickly tell whether a child's record is improbable and question him accordingly. The training which a child receives in this way may do more good than the calendar itself, for not only will it impress him with the value of careful observation, but it will also impress him with one of the greatest marvels of migration, the accuracy of the spring arrival of each species of bird year after year.

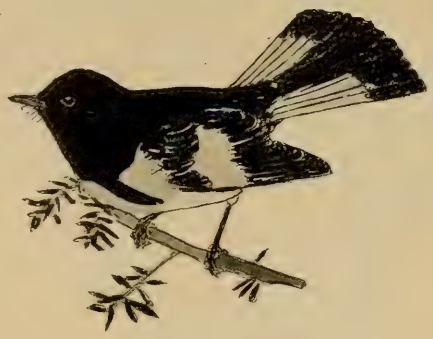
DIRECTIONS FOR KEEPING A BIRD-CALENDAR

For the use of individuals wishing to keep a full record of their observations throughout the season and from year to year, the method employed by Dr. Chapman and described on page 10 of his 'Handbook of Birds of Eastern North America' cannot be improved upon. At Cornell, in addition to keeping individual records of this kind, we maintain a 'Bird-Chart,' which is essentially the same as a roll-book spread out, upon which the observations of all who coöperate are recorded. It is made of profile paper and covers a wall-board about 9 feet long and 4 feet wide. At the left are three vertical columns for the names of the birds, the names of the discoverers, and the localities where they were first seen. The remainder of the chart is divided into squares so that there

are 365 of them following the name of each bird to receive the daily records. For convenience the chart is ruled into weekly columns and a rider is used bearing the names of the birds to facilitate the entry of records. The chart is long enough vertically to receive the names of about 200 birds which is the average number reported each year. This chart system, which was started nearly fifteen years ago by Dr. A. H. Wright, has always stimulated a great deal of interest among students, and has resulted in a great deal of valuable information which is of easy reference. For ordinary school-room use, however, such a chart is too cumbersome and is much more elaborate than necessary, but the main features of it should be retained.

There are three main types of calendars that have proved successful for school use, that the editor is familiar with, and there may be others equally good which he has not seen and which he would like to hear about. In all three there are at least four vertical columns: The first for the name of the bird; the second for the name of the discoverer; the third for the place where it was seen; and the fourth for the date when it was first seen. In order to verify the first record, it is well to keep the second record also, so that if too great discrepancy occur between the first record and the average date of arrival, the second date can be retained instead. The calendar would be of still greater value if a record were kept of when the bird became common, when it began to nest, and when it was last seen, but, for most school calendars, the first four or five items are sufficient.

BIRD CALENDAR



REDSTART

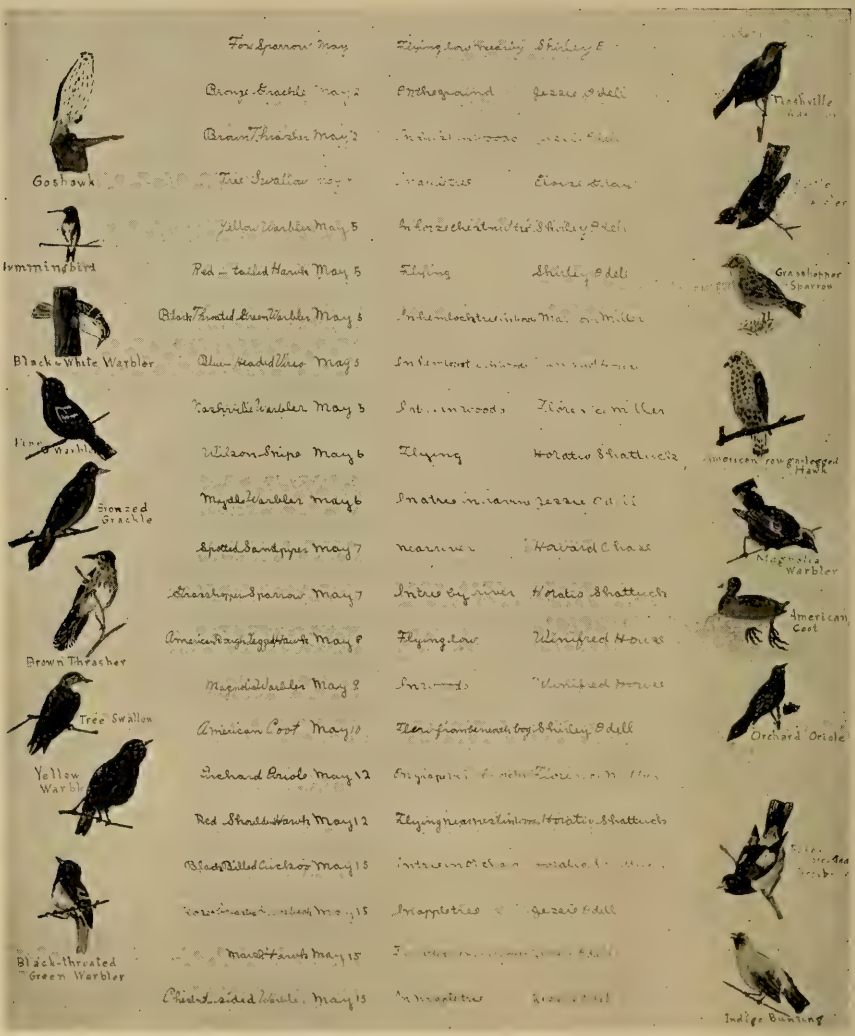
Year	First seen	By whom	Where	Next seen
1918	april 29	J.T. Lloyd	Cassadilla	May 1
1919	May 2	G.P. Burr	Fallen	May 5
1920				
1921				
1922				

A GOOD TYPE OF BIRD CALENDAR FOR THE SCHOOL

It permits of coördination between the drawing and nature work, and preserves the records from year to year to inspire each class of children. When the bird is first seen, the card should either be made or brought out of the cupboard, and the entry made. It should then be hung in a conspicuous place.

The three types of calendars differ primarily in their decorations: Some teachers prefer to have but a single competition in the drawing-class to select the design for the calendar, and this usually results in one such as here illus-

trated, with the birds at the top of a sheet and all of the observations beneath. Other teachers find time for considerable drawing and try to have each bird that is seen illustrated. Often the child who sees the bird is permitted to make



A PAGE FROM THE SECOND TYPE OF BIRD-CALENDAR HERE EVERY BIRD IS FIGURED AS SOON AS IT IS SEEN, THUS COÖRDINATING ART AND NATURE WORK

the illustration, which is then cut out and pasted in the margin opposite its name. This requires a very large card, and often several of them. The method which seems most attractive to the writer is to have a separate sheet for each bird upon which the observations for several years can be kept. As often as a new bird is studied and drawn, the best drawing should be saved for the bird-

calendar. Perhaps but few of the birds are illustrated the first year, but those that are serve as inspiration for the next year's class to surpass them. As soon as a bird is reported, its card should be brought forth, the date, authority and locality added, and then it should be hung up in a conspicuous place. Perhaps the class will like to improve upon the picture, and the competition which results will stimulate the drawing lesson, while the presence of the names of the boys and girls in the last year's class who first observed the birds the previous year will stimulate them to greater observation out of doors.

Whichever type of calendar is employed, it should always be borne in mind that quality is better than quantity, and that accuracy is of prime importance. The calendar should be started before the birds begin to come back in the spring, so that it will include the winter residents. The nearer the first of January it is begun the better, though it may be started at any time. The children must learn to recognize that certain birds are with us throughout the year (permanent residents), others merely spend the winter in a given locality and nest farther north (winter residents), while the majority spend the winter in the South and either nest with us during the summer (summer residents) or pass through on their way to a more northern nesting-ground (transient visitants). The last two classes are the ones that make the keeping of a calendar so interesting, because of the accuracy of their arrival in the spring, but the first two must not be forgotten.

If a teacher will read any of the numerous accounts of bird-migration that have appeared, such as that in the introduction to Dr. Chapman's 'Handbook of Birds of Eastern North America,' or the paper by W. W. Cooke on 'Bird Migration,' published by the U. S. Department of Agriculture, or the little book entitled 'The Travels of Birds' by Dr. Chapman, he will be able to make the study of bird-migration and the bird-calendars much more interesting. For the benefit of those who are unable to refer to a more complete account, the following summary prepared by the writer for the *American Forestry Magazine* may prove useful.

THE RETURN OF THE BIRDS

When the high tide of the spring migration comes, it is about the middle of May and nearly three months have passed since the first Horned Larks started northward over snow-covered fields. The March Robin brings forth its crowd of admirers, the call of the Bluebird draws a response from others, but when every hedgerow and thicket resounds with musical voices, and even the trees of the city streets flash with brilliant Warblers, everyone likes to stop and listen and notice the unusual number of birds. We cannot help wondering whence have come these little wanderers, where they are going, and what is the meaning of their journeys. In great waves they come from the South, flood us with beauty and song for a few days, and then pass on. Wave after wave passes over us during the course of the month, until June arrives, when the last immature birds hasten on to their nesting-ground and leave us with only our summer birds until the fall migration shall bring them back once more.

A little observation from year to year shows us that these May birds are extremely

regular in their appearance and disappearance. One can soon learn just when to expect each species, and, if the weather is normal, it will arrive on the day set. The earlier birds, such as the Robin, Bluebird, Blackbird, Canada Geese, Meadowlark, and Mourning Dove, which come during March, are much less regular because of the idiosyncrasies of the weather. If there were no such thing as weather, if food were always equally abundant and if there were one great level plain from the Amazon to the Great Slave Lake, the birds would swing back and forth as regularly as a pendulum and cross a given point at exactly the same time every year. For this migrating instinct is closely associated with the enlargement and reduction of the reproductive organs, a physiological cycle which, under normal conditions, is just as regular as the pulsing of the heart and records time as accurately as a clock. With most species the organs of mature birds begin to enlarge before those of birds hatched the preceding year, and those of the males before those of the females. Because of this, the male birds arrive first and are followed by the females and later by the immature birds. With some species, like the Robin, Bluebird, and Phœbe, there is very little difference in the time of arrival, but in the case of the Red-winged Blackbird, often a period of two weeks, or even a month, intervenes. This may be a wise provision of nature to secure a nesting-area that will not be overcrowded, for once the male has established himself—and it is often at the same spot year after year—he drives away all other males from the vicinity, awaiting the arrival of the females, and particularly his mate of the previous year. But with the later migrants, such as the shore-birds, that have a long way to go, the females usually arrive with the males, and, with some species, courting takes place en route and they arrive at the breeding-ground fully mated and ready to nest.

THE SCREECH OWL A PERMANENT RESIDENT

The early migrants are those that have spent the winter entirely within the United States. This is true of all the March birds in the northern states, but, during the last of the month, the first birds from the West Indies and Mexico begin to arrive in the southern states. About the middle of April, many of the birds that have wintered still further south begin to arrive, including the Swallows, the Spotted Sandpipers, the Black and White Warbler and the Water-Thrush. The last of April and first of May brings even to the northern states the initial wave of birds from Central America, and perhaps even northern South America, and about the middle of this month, when occurs the height of the migration, thousands of tiny Warblers, Vireos, and Flycatchers that have been wintering on the slopes of the Andes or the pampas of Brazil, are winging their way overhead to Labrador, Hudson Bay, and Alaska. The shortest route which one of the last to arrive, the Blackpoll Warbler, may traverse is 3,500 miles, while those which nest in Alaska travel over 5,000 miles. Some of the shore-birds, which bring up the close of the migration in late May or early June, have undoubtedly come from Chile,

or even from Patagonia, and they still have several thousand miles to go, so that, before they reach their nesting-grounds again, they will have traveled 16,000 miles since leaving in the fall. The 'champion long-distance migrant' of them all, however, is the Arctic Tern, the extremes of whose nesting and wintering ranges are 11,000 miles apart, so that they have to travel 22,000 miles each year.

This constrains us to wonder how these tiny wayfarers are able to travel such tremendous distances and still return so accurately to their homes. That many of them do this has been proved by placing aluminum bands on their legs, so that they can be recognized from year to year. Not only has this been demonstrated, but it has likewise been shown, in the same way, that many birds spend the winter in exactly the same place year after year.

At one time it was thought that they followed well-marked highways in the mountains, rivers, and coast-lines, surveyed, as it were, by their ancestors and unfailingly followed by all descendants. But now it is believed that these highways are followed only so far as they afford abundant food, and when the food-supply lies in some other direction, they are regardlessly abandoned. What is it, then, that guides them mile after mile in their flights, flights made mostly under the cover of darkness, and often at altitudes varying from 2,000 to 5,000 feet above the earth? A sense of direction, it is now called, an instinct for recording directions as accurately as a compass, which we, having only so crudely developed in ourselves, are at a loss to understand; an instinct which permits birds to travel north, south, east, or west and not lose their bearings. For the migration route of most birds is not directly north and south, and many preface their southerly journeys by long flights directly east or west. The Bobolinks and Vireos of the northwestern states, for example, leave the country by way of Florida or the Gulf Coast, and first fly directly east to the Mississippi Valley, to join the others of their kinds before starting southeasterly. The White-winged Scoters, which nest about the lakes of central Canada, upon the completion of their nesting duties, fly directly east and west to the Atlantic and Pacific where they winter. Some Herons preface their migrations by long flights, even to the north, so that occasionally Little Blue Herons and Egrets are found in the northern states during August and September.

MIGRATION OF THE ARCTIC TERN (From Cooke)
The extreme summer and winter homes are 11,000 miles apart

With birds that travel such enormous distances, it is interesting to note their rate of advance. While it is possible for birds to travel great distances without a rest, as witnessed by the fall flights of the Turnstone from Alaska to Hawaii, or of the Golden Plover from Labrador to northern South America, distances of over 2,000 miles across the open sea, they do not ordinarily progress far in single flights. The spring advance of the Robin, for example, averages only 13 miles a day from Louisiana to southern Minnesota. The rate increases gradually to 31 miles a day in southern Canada, 52 miles per day by the time it reaches central Canada, and a maximum of 70 miles a day when it reaches Alaska. It should not be inferred from this that each Robin does not ever migrate less than 13 or more than 70 miles a day. Probably they often fly more than a hundred or two hundred miles in a single flight, as do, undoubtedly, many of the smaller birds, but after each flight they dally about their resting-place for several days before starting on again, and this brings down the general rate of advance.

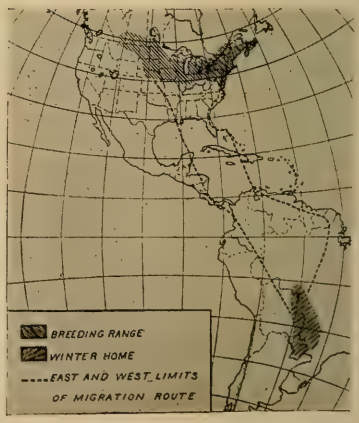
The rate of speed at which birds travel is rather difficult to estimate, except in the

Homing Pigeons, which can be timed from one place to another, or in the Ducks and Geese, whose conspicuous flocks, traveling high over cities and towns, can be easily followed. The championship speed for Homing Pigeons has been recorded as 55 miles an hour for a period of four hours. A Great Blue Heron has been timed by a motorcyclist keeping directly below it and found to be 35 miles an hour. A flock of migrating Geese has been found to be traveling at a speed of 44.3 miles per hour and a flock of Ducks at 47.8 miles. The speed of smaller birds is usually less, although when they mount high in the air and start on their migratory flight, they doubtless fly faster than the birds one so often passes flying parallel to a passenger train or a suburban car.

THE BOBOLINK NEAR ITS NEST WITH FOOD FOR ITS YOUNG

The vast majority of birds migrate during the night; some migrate both by day and by night; others only by day. The latter are, for the most part, birds that find their food in the open and can feed as they travel. Such are the Robin, the Kingbird, and the Swallows. Other birds like the Sparrows, Vireos, Warblers, and marsh birds, that find their food among the trees or in dense vegetation, migrate entirely by night. The necessity for this is shown when they arrive at the Gulf of Mexico or other large body of water where it is impossible to get food of any kind. If they started early in the morning, so as to be across by night, they would not be able to get much food before starting, and by the time they reached the other side, it would be dark and again impossible to feed. Thus an interval of thirty-six hours would elapse without food, a period that might result disastrously for many birds because of their high rate of metabolism. If, however, they spend the day feeding and migrate by night, their crops are full when they start, and, when they arrive at the other side, it is daylight and they can begin immediately to glean their living.

During these night migrations birds are attracted by any bright, steady light, and every year hundreds and thousands dash themselves to death against lighthouses, high monuments, and buildings. When the torch in the Bartholdi Statue of Liberty was kept lighted, as many as 700 birds in a month were picked up at its base. On some of the English lighthouses, where bird



MIGRATION OF THE BOBOLINK
The Bobolink summers in the northern states and winters chiefly in northern Argentina. (From Cooke.)

destruction was formerly enormous, 'bird-ladders' have been constructed, forming a sort of lattice below the light where the birds can rest instead of fluttering out their lives against the glass. Again, in crossing large bodies of water, birds are often overtaken by storms, and as their plumage becomes water-soaked, they are beaten down to the waves and drowned. Sometimes thousands of birds are killed by a single storm. But, of course, the vast majority of birds sweep on and arrive at their destinations in safety.

And so, if one steps out on a cloudy night, when the birds are migrating low to escape flying through the moisture-laden clouds, he will hear their strange calls, only faintly resembling their familiar daytime notes. Then he can picture to himself the thousands of winged travelers returning from a sojourn in the tropics and pushing on through the black night, guided by an innate sense of direction straight to their old homes. Then he can think over the past ages through which this migrating habit has evolved to the days when all North America basked in a tropical sun and birds darted among the palms and tree ferns without ever a thought of leaving the homes of their forefathers. Then one can picture to oneself the coming of the ice age and the destruction of all the life that could not adapt itself to the changed conditions or flee before them. One sees the birds pushed gradually to the south, encroaching upon those already there. One understands the crowding that must have ensued, and how these birds spread northward again as the glaciers receded, only to be pushed back once more by the coming of winter. One contemplates how, with the withdrawal of the ice and the evolution of the seasons, these migrations, by repetition through the ages, became permanent habits or instincts; and, with the ensuing modifications in the contour of the continent, and the changes in the location of the food-supply, many variations developed in the migration route of each species which seem inexplicable today.

A BANDED HOUSE WREN

By marking birds with aluminum bands it has been proven not only that many come back to the same place each year, but also that they winter in the same locality year after year.

One pictures these things to himself; one understands a little better the great mystery of the bird's life; and, perhaps, one appreciates somewhat more fully the presence in our thickets and gardens of these songsters, whose lives are ever one series of hardships and dangers, and yet which, withal, are so expressive of the happiness and joy to be derived from nature.

QUESTIONS

1. Name five birds that are permanent residents in your locality.
2. Name ten birds that are summer residents.
3. Name ten birds that are transient visitants.
4. Name five birds that are winter visitants.
5. What is the earliest date of arrival of the Robin in your locality? The Bluebird? The Phœbe? The Red-winged Blackbird? The Canada Goose? The Bobolink? The Baltimore Oriole? The Scarlet Tanager?
6. Why do some birds return earlier than others in the spring?

7. How many different kinds of birds have you seen in one day? When was this and why did you see more on this particular day?

8. Which birds are the most regular in their return from year to year and why?

9. Do you keep a record of all the birds you see every year? What kind of a record book do you have?

10. Do you have a bird-calendar in the school every year? How many birds were seen last year?

11. What is the largest number of birds you have seen in a year? How many different birds do you know?

12. Do you know if the male or the female bird comes back first in the spring in the cases of the Robin, the Bluebird, the Red-winged Blackbird, the Baltimore Oriole, and the Scarlet Tanager?

13. Do all birds sing as soon as they come back in the spring, or do some of them wait until the females arrive?

14. Are the first Robins you see in the spring the ones that nest in your vicinity, or do they go on farther north and your birds come later? Are all birds alike in this respect?

15. Do birds return to the same place to nest year after year or are their places taken by others of the same kind?

FROM YOUNG OBSERVERS

AN INTERESTING RECORD

I am sending a set of answers to some of the questions on page 386 of BIRD-LORE for November-December, 1919.

1. I have a list of twenty-five species recorded since December 20. The majority of them are permanent residents.

2. I know of what the food of a large portion of them consists.

LIST OF WINTER BIRDS

1. English Sparrow; P. R.; food, oats and other grains found about the barn; roosts under eaves or in sheds.

2. Harris' Sparrows; W. V.; feeds chiefly on weed seeds; roosts in bushes.

3. Slate-colored Juncos; W. V.; food, seeds (as near as I can tell); roosts in deep weeds.

4. Chickadees; W. V.; feeds from the bark of tree on insect pests.

5. Cardinals; P. R. I cannot be sure of his food but it is partially composed of wild winter fruits, such as hackberry and huckleberry.

6. Red-bellied Woodpecker; P. R.; feeds from walnut tree-boring pests chiefly, but often is seen on sycamore or dead trees.

7. Hairy Woodpecker; P. R.; this is a rare bird here and I cannot be sure of his food.

8. Hermit Thrush; W. V.; feeds from the worms in horseweed stalks; roosts near the ground in thickets.

9. Field Sparrow; P. R.

10. Blue Jay; P. R.; roosts in tree-tops.

11. American Robin; P. R.; feeds from the sumac bushes or other wild berries, during a thaw from the slough banks as a Plover; roosts in thickets.

12. Northern Flicker; P. R.; wood-boring insects, chiefly from dead wood.

13. Swamp Sparrows; W. V.; roosts in deep, thick grass.

14. Downy Woodpecker; P. R.; feeds chiefly on boring insects in the small limbs of trees, in brush or even in weed stalks.

15. Bob-white; P. R.; its food consists of seed picked from, on or near the ground; roosts on the ground in thickets.

16. Bluebird; P.R.

17. American Rough-legged Hawk; W.V.; food, Bob-white, (?), Blue Jays (?), rabbits and rats; roosts in tall trees.

18. American Crow; P.R.; food, corn, poultry (?) and carrion; roosts in large colonies in trees.

19. Red-tailed Hawk; W. V.

20. Meadowlark; P.R. (more abundant in winter; rare in summer); feeds on grass seeds; roosts on the ground in low grass.

21. Carolina Wren; W.V.

22. Tufted Titmouse; rare P.R., abundant W.V.; feeds to a large extent on insects from the bark of trees.

23. Northern Shrike; W.V.; food, Sparrows chiefly.

24. Towhee; W.V.

25. Red-headed Woodpecker; P. R.; feeds on boring pests from post oak trees (chiefly).

3. In the case of the Flicker, Robin, Blue Jay, and Bluebird they migrate, although permanent residents in this locality. In each of these cases there is an interval when no birds are seen between the summer and winter birds.

4. Our smaller birds are usually found in creek-bottoms or near ponds while the larger ones roam about over large areas. All birds are not alike in this respect; for instance, one pair of Blue Jays is always found near a slough while another pair roams over a section of land.

9. The track of a Crow has the broad toes in front and one behind without a deep impression made by the tarsus. That of a Pheasant is as a chicken's, only shorter. The tarsus leaves a noticeable print which the hind toe does not show. The Sparrow has a long hind toe and three front ones. The hind toe of the Lark is not so long.

10. See Q. 2.—THEODORE R. BEARD, *Sapulpa, Okla.*

[Here is a record of observations that can well be emulated. How many boys and girls are there that can do as well for their locality? As soon as you have introduced yourself to a bird by learning its name, there are numberless observations to make on its habits before you really know it. Does everyone agree that the hind toe of the Lark is shorter than that of the Sparrow?—A. A. A.]

THE GROUND DOVE

By T. GILBERT PEARSON

The National Association of Audubon Societies
EDUCATIONAL LEAFLET NO. 101

A dainty little pedestrian is the Ground Dove. One may meet it almost anywhere, in the gardens, fields, or the quiet streets of Florida towns. Its legs are very short and it moves with elevated tail and a queer bobbing of the head, but with a grace and dignity that are both quaint and very charming. It is the smallest member of the Pigeon family in North America, measuring 6¾ inches from bill-tip to tail-tip.

Unlike the Inca Doves of Texas and the Southwest, they never sit with others on a wayside limb, like a row of little brown dummies, and unlike the Mourning Dove they seem never to gather in large flocks. Rarely are as many as eight or ten seen at a time, and when this happens the birds are usually brought together by their common interest in an abundant food supply. Usually they are seen in pairs, although in the mating season it is no uncommon sight to see three together.

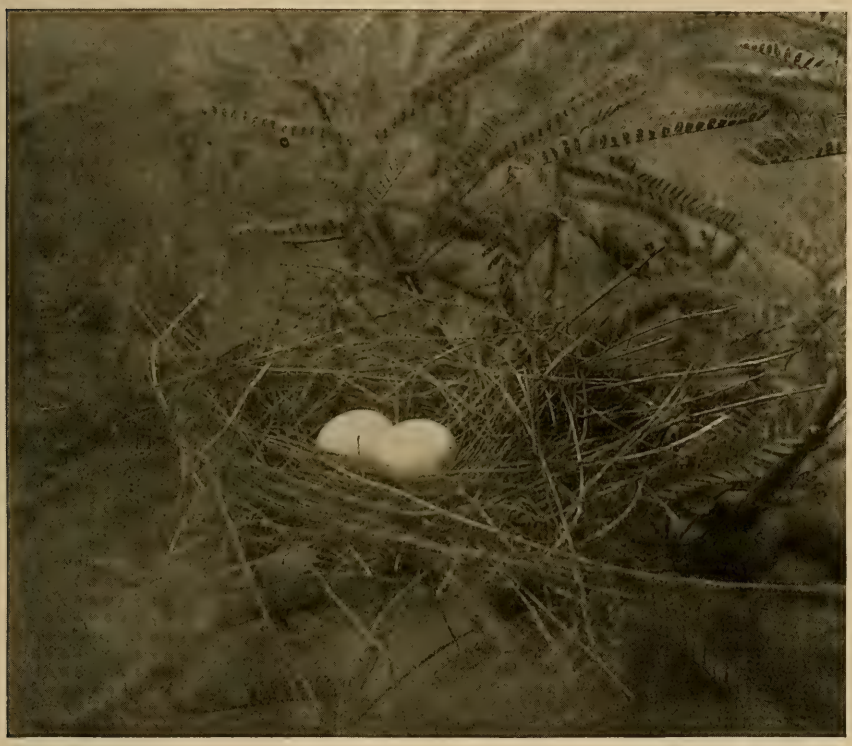
The note of the Ground Dove is a soft, cooing, mournful sound, which in many localities has given it the name of 'Mourning Dove.' The call, often repeated, issuing from the depths of an orange tree or the sheltered limb of a live oak, is one of the characteristic bird-notes that is borne to one's ears in that subtropical land.

The gentle nature and appealing appearance of the Ground Dove have an unusual effect on the mind of the average Florida negro. To him this is one bird that should not be molested. I have often been warned by dusky field hands of the risk one would run should he harm a Ground Dove. These eager hunters, who will unhesitatingly shoot Meadowlarks, Flickers, Robins, or other birds that may chance to come within their range, are loth to fire on this semi-sacred bird. To their minds it is certainly 'bad luck' to kill one.

The Ground Dove's food consists largely of small seeds which it gathers in the garden, on the lawn, by the roadside, in the field, and other places where weeds or grasses are found. Naturally many insects are also picked up in their travels, particularly in the spring and summer. Small wild berries also are consumed. So far as known they never adversely affect the interests of mankind, even in the slightest degree, and wherever found they are protected by statute and by the still stronger law of public sentiment.

Although a terrestrial bird when feeding, it does not hesitate to light upon fences, trees, and buildings. Often they may be seen sitting on the tops of barns, farmhouses, or dwellings in the towns, and from these elevated perches they send forth their gentle cooing notes which the world may hear and enjoy.

We are accustomed to think of Doves as being birds of peace. The Ground Dove is by no means one of the species that may believe in 'peace at any price.' Unhesitatingly he will attack one of his kind, or even a Mockingbird, Brown Thrasher, or other feathered neighbor that may seek to take his food. His soft bill does not make much of a weapon, and he seems to rely mainly on the stroke of his wing to disconcert his opponent.



NEST AND EGGS OF THE MEXICAN GROUND DOVE IN MESQUITE BUSH
Photographed by William L. and Irene Finley, Tucson, Ariz.

In my experience, when a brooding bird is approached it leaves the nest suddenly and flutters away. Occasionally an individual is found that declines to expose her treasures without an argument. As the inquiring hand comes close to the nest, she does not strike with her bill, nor even indulge in loud scolding, but with ruffled feathers raises her wings in a threatening attitude, as if she would crush the offending fingers if they came too close. Surely a puny, hopeless bit of resistance; nevertheless it shows that a stout heart throbs within the feathered breast of the little mother.

There is no bird in the United States that to my knowledge breeds over so long a period of the year as does the Ground Dove. In my experience with these birds in Florida, I have found their nests occupying varying situations

during different seasons of the year. Thus on February 28 and March 3 I have found nests located on the tops of partially decayed stumps of pine trees, only about 2 feet from the ground. Later in the season I have seen numerous nests placed on the ground, usually in fields of weeds or in standing grain. Fields of oats seem to be especially favored with their presence during midsummer. Late in July, August, and on to the latter part of September, I have found their nests on horizontal limbs of large orange trees, on the level fronds of palms, and on the cross-bars or rails, so commonly used for supports of the widespreading scuppernong grape-vines.

Wherever placed the nest is composed chiefly of grasses with perhaps a few twigs or rootlets. It must have a support, for it is entirely too frail a structure to withstand the destructive forces of the winds and rains, if placed in the crotch of a bush. Two elliptical-shaped pure white eggs are laid—never more.

In flight the Ground Dove usually keeps near the ground when flying across open fields, only rising to clear shrubbery, trees, or buildings. Ordinarily it does not proceed over 100 yards before again alighting. In fact it seems strongly attached to the immediate neighborhood in which it lives. On some occasions, however, I have noticed its flight prolonged to what seemed an unusual extent. For example, during June, 1918, while lying becalmed on the yacht, 'Seafoam,' at Sara Sota, Fla., these birds were very frequently noticed as they passed over the town and out over the bay at least a mile to a neighboring island. To make this journey they had to fly quarteringly across a breeze so strong that no captain of any vessel in the harbor cared to face it. Yet the Ground Doves flew back and forth between the town and the island, apparently without hesitation.

In traveling along the sandy roads through the pine barrens in Florida, it is no uncommon sight to come upon a pair of these little birds dusting themselves. They scratch out little hollows and lie in them, sometimes on one side, then on another, kicking and fluttering, and causing the warm sand to trickle down through their feathers, much as does a Bob-White in similar surroundings.

I have spoken of the Ground Dove only as occurring in Florida. It is found also in Georgia and South Carolina. Over these states its range seems to be confined almost entirely to the immediate vicinity of the coast and outlying islands. Its extreme northern natural limit may be said to be eastern North Carolina. It likewise occurs along the Gulf Coast, but in very limited numbers, ordinarily not beyond New Orleans.

Further west we meet with the very closely allied species known as the Mexican Ground Dove. The birds are very similar, and practiced indeed must be the eye that can distinguish them. The Mexican Ground Dove is found in the southwestern tier of states and down through Mexico to Central America.

In speaking of the nesting habits of the Mexican Ground Dove, in Arizona, William L. Finley, writing in Bird-Lore for May-June, 1915, says:

"One finds a great deal of difference in the individuality of birds. Two pairs of Ground Doves, whose nests we found, were very shy; but at a third nest we discovered that we were able to move the camera up within 10 or 12 feet without frightening away the brooding parent. After it had stood there a little while, we slowly moved it to within 4 or 5 feet. Instead of leaving her home, the Dove raised her wings and spread her tail in anger. She gave a fine, intense, whining note, as she struck at us with her soft bill. We annoyed her to the extreme by putting a finger up to the edge of the nest, and finally stroked her feathers. Then she seemed to realize that we had no intention of harming her, and let us take as many pictures as we wished."

It is one of the laws of nature that most birds that spend their lives largely on the ground are subjected to so many natural enemies that it is necessary for them to lay a large number of eggs in order to keep up the race. Thus a Ruffed Grouse lays from six to ten, a Wild Turkey from eight to fourteen, and the Bob-White all the way from a dozen to eighteen or even twenty. Yet the Ground Dove is able to hold its numbers against its enemies by laying only two eggs. How this is possible has not been fully explained. It certainly indicates that the little Dove is well able to take care of itself. Among its enemies are snakes, and numerous mammals, such as skunks, opossums, and foxes. Many are annually caught by domestic and semi-domestic cats, for no matter how well the average cat is fed it will seize a bird if it has the opportunity.

On one occasion I saw a Sharp-shinned Hawk suddenly drop into an open field and seize a Ground Dove, but, fortunately for the Dove, it escaped before the Hawk had flown more than 50 feet with its victim. The Dove was out of sight in a little oak bush before the numerous feathers that the Hawk had dislodged had drifted to the earth. Walking over to see if the bird was much injured I was surprised to see another Dove rise on the wing at a spot which appeared to be not over 4 feet from where its companion had been seized. As the Hawk had not observed me when it flew away, it is evident it had seen only one Dove, the other probably escaping detection by the wise expedient of lying motionless when sudden danger came upon it.

The Audubon Societies

EXECUTIVE DEPARTMENT

Edited by T. GILBERT PEARSON, Secretary

Address all correspondence, and send all remittances for dues and contributions, to the National Association of Audubon Societies, 1974 Broadway, New York City.
Telephone, Columbus 7327

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THEODORE S. PALMER, *First Vice-President* JONATHAN DWIGHT, *Treasurer*
SAMUEL T. CARTER, JR., *Attorney*

Any person, club, school or company in sympathy with the objects of this Association may become a member of it, and all are welcome.

Classes of Membership in the National Association of Audubon Societies for the Protection of Wild Birds and Animals:

$5 annually pays for a Sustaining Membership
$100 paid at one time constitutes a Life Membership
$1,000 constitutes a person a Patron
$5,000 constitutes a person a Founder
$25,000 constitutes a person a Benefactor

FORM OF BEQUEST:—I do hereby give and bequeath to the National Association of Audubon Societies for the Protection of Wild Birds and Animals (Incorporated), of the City of New York.

SUMMER RECREATION-SCHOOL OF NATURE-STUDY

Three years ago the generosity of Charles M. Ams, Esq., of New York City, placed at the disposal of this Association the use of his great private estate at Amston, in eastern Connecticut, comprising several square miles of ideal country for birds and game, and a large sightly lake. This has been made an Experiment Station and Wild-Life Sanctuary of the Association, a model game-farm and demonstration point. Last season this game-farm produced over $4,000 worth of game-birds, and afforded great pleasure to writers and students. In conjunction with this there has developed a very successful Recreation School of Nature-Study and Nature-Lovers' Colony, with students and visitors from all over the United States and Canada.

For 1920 the whole program and plan is to be materially broadened. From the middle of May and through June there will be informal watching of the bird migration, finding of nests, with plate and motion-picture photography, also special experimentation in new methods of rearing young Ruffed Grouse, Wood Ducks, and other species. Well-known ornithologists plan to be in attendance.

From July 3 to 23 will be held the first term of the regular Summer School, with studies as follows, always from the popular standpoint, and never in a way to be dry or burdensome:—Knowing Wild Birds Afield; Attracting Birds and the Rudiments of Game-Breeding Methods; Nature Photography, Plate and Motion Pictures, Including Making and Coloring Prints and Lantern-Slides—the above being taught by Herbert K. Job. Also instruction in school methods for teachers will be given by Miss Helen D. Wise, of Washington, D. C., specialist in nature-work in normal and other schools,—including planning of nature courses for various grades, what lessons to give and how to give them, on birds, flowers, insects, shells, etc. There will also be illustrated evening lectures by visiting specialists, exhibitions of lantern-slides and motion pictures of bird-life, also field- and lake-excursions, picnic suppers at the lake, aquatic sports, and informal musicals.

The second term will be from July 24 to August 13. There will be a special course in practical game-farming, to prepare men or women to breed and raise game-birds and wild-fowl for pleasure or profit. The above courses will be continued further

for those who wish to remain throughout, or repeated for newcomers. Further evening lectures will be given, and recreational and social features will be especially emphasized.

Rooms may be secured at Amston Inn or adjacent cottages or camps, with meals at the Inn. The Audubon House is a social headquarters of the Association, and has quite a complete collection of bird specimens, a working Nature library, and other exhibits. Amston is 10 miles west of Willimantic, and everything is within walking distance of the railway station.

Circulars with full details and terms will be mailed to all who inquire. Write to the Director, Herbert K. Job, West Haven, Conn., or to our New York office.

EGRET PROTECTION IN THE SOUTHERN STATES

A brighter day is dawning for the persecuted Egrets of the United States, now confined almost entirely to the southeastern states. It is generally conceded that but for the efforts of this Association, the large Egret and the little Snowy Egret would have become almost, if not entirely, extinct by this time in Florida, Georgia, and the Carolinas.

It has been a long, uphill fight for many years to raise funds and secure good agents to guard the few remaining nesting colonies of these birds. We have had practically no help under the state laws. Florida has no state game-warden system. The assistance of the United States Government has, heretofore, been very meager. More funds having become available, the Biological Survey has entered upon a definite policy of putting some of their agents actively in the field to apprehend and prosecute those who kill these birds. As these lines are written several of its agents are in Florida, which certainly means that much will be accomplished. Last year the Government's agents made a seizure of plumes at Miami and conducted a successful prosecution, which was well advertised throughout the state. A few more legal actions of this kind will have a most salutary effect on the movements of the plume-hunters.

It is confidently expected that the members and friends of the Association will continue to make it possible for us to employ as complete a series of guards for the Egret colonies as it is possible to procure, and with the active and hearty coöperation of the Government, which is now actually in operation, there seems no reason why the Egrets should not again increase and be brought back to their old haunts much in the same way that the Gulls and Terns along our eastern coastline have been restored through the legislative, educational, and warden work of this Association.

AN INTERESTING LETTER

The following letter, written March 4, 1920, has been received from E. W. Nelson, Chief of the Bureau of Biological Survey:

"*Dear Mr. Pearson:* It will interest you to know that a few days ago Pacetti, with United States Game Wardens, Farnham and Birsch, arrested William B. Mackenson, of Kissemmee, and found in his possession the plumes of one hundred large and small Egrets in addition to those of other Herons, which were estimated locally to be valued at $12,000. Mr. Mackenson was promptly taken into court, tried, and fined $250 and the plumes confiscated. As you have formerly advised me he is an old offender in Florida and we are greatly pleased to have been able to capture him. I hope that our wardens may be able to get other plumers before the season is over.

"United States Warden Smith, at Norfolk, recently seized a wagon-load of Ducks and Geese which he found illegally held in a number of cold storage plants in that place. He was instructed to turn these over to the naval and other hospitals in that

city. Many similar cases are being constantly reported.

"Yesterday the hearing over the constitutionality of the Migratory Bird Law took place and several of us went to the Supreme Court and heard the arguments. I am very confident that the court will decide that the law is constitutional but, of course, nothing will be known until they report on the case, which may possibly be about June, when the court adjourns for the season."

BIOLOGICAL SURVEY NEWS BULLETIN

The Bureau of Biological Survey of the United States Department of Agriculture is now issuing a monthly mimeographed bulletin, containing items of news in connection with the Bureau's activities. The February issue, for example, contains many notices of the work of the members of the office and field staff. Reference is made to the special undertakings in which they have been engaged, the lectures they have given, etc.

Reports on the work of the destruction of predatory animals and rodents, and the enforcement of the Migratory Bird Treaty and Lacy Acts form a very interesting portion of the bulletin. There are also notes on the mammal- and bird-reservations under the care of the Government. A list of the publications which the Biological Survey has for general distribution is given and also a directory containing the names and addresses of the field staff of the Survey. Altogether it is an extremely interesting bulletin for anyone engaged in any phase of the work of the conservation of America's wild-life.

NEW TREATIES PROPOSED

From the Hon. John H. Wallace, Jr., Commissioner of Conservation in the state of Alabama, it is learned that on Feb. 7, 1920, the United States Senate agreed to Senator Bankhead's resolution (Senate Resolution 56) seeking conventions between the United States and certain Latin-American republics for the protection of migratory birds. This resolution requests the President to propose to such countries treaties for the protection of birds which, in the course of annual flight, pass through or from the United States and temporarily sojourn in the countries of Mexico and Central and South America. This action has been undertaken in view of the success attained under the provisions of the Migratory Bird Treaty between the United States and England regarding the birds that pass between Canada and the United States.

Mr. Wallace has taken the initiative in this matter, being chairman of a committee appointed by the International Association of Game Wardens and Commissioners for the purpose of pressing the subject. All those interested in the conservation of wild life will follow with interest this further undertaking for the protection of America's wild-bird life.

'BLUEBIRD,' A LIVE PUBLICATION

One of the brightest, most informing, and up-to-date publications on conservation of wild life issued in this, or any other country, is the monthly magazine, *Bluebird* as it has been appearing of late.

This publication was first started on April 15, 1910, by Dr. Eugene Swope of Cincinnati. Under the title of *Nature and Culture* it ran through five volumes. In October, 1913, it appeared with the name *Bluebird*. After completing Volume VII with the number issued in September, 1915, Dr. Swope disposed of the magazine to Mrs. Elizabeth C. T. Miller, of Cleveland,

who since that date has published it for the Cleveland Birdlovers' Association.

Mrs. Miller is a very public-spirited woman and most energetic in working for matters looking to the public good. She became so engrossed in important matters in connection with war-relief that beginning with the May, 1919, number she associated with the magazine Miss Georgia M. Bowen as associate editor. Miss Bowen has had the time and ability to give much added vitality to the magazine. She has a wonderful faculty for gathering current information on topics of conservation and presenting them most entertainingly. With such an associate there is no wonder that the *Bluebird* under Mrs. Miller's support and direction has come to be one of the most valuable publications that reaches the office of the National Association. We hope for it a continually increasing circle of readers.

REPORT FROM BANGOR

The Bird Conservation Club of Bangor, Maine, has just completed its fifth year. During this period we have had 120 names on our roll, four of whom are honorary members. These have all given interesting papers at our meetings, which occur on the second Wednesday in each month. One of the members has a very extended collection of mounted birds, bird skins, eggs, and nests. It is the most valuable collection now in our state.

We have one life member, who has always been most generous in financial help to the Club. Our membership dues having been placed at so small an amount to enable anyone to become a member who has the interest to do so, we are sometimes dependent upon other resources for extra work.

In 1916 we placed forty-eight cloth posters, warning against bird shooting, and fourteen nesting-houses. Twenty evergreen trees were set out in the city parks. In 1917 fifty-seven more evergreen trees were placed for the shelter of birds in winter. Many bird-houses have been put up by the Club, and by members near their homes. Some houses, which were donated by the schoolchildren were erected in parks and cemeteries. Suet and other food has been placed by the Club Committee and by individual members whenever it seemed needed.

The Club has become a member of the National Association of Audubon Societies and keeps in touch with the National work by reading BIRD-LORE. A contribution was sent for the 'Roosevelt Memorial Fountain.' We have exchanged circulars with other clubs and we have received many letters of inquiry regarding the work, and many gratifying remarks of appreciation.

We have sent letters and telegrams to our Senators regarding the 'Migratory Bird Law' at critical moments. Last year we placed a large glass cabinet of mounted birds in the children's room of our Public Library, these birds having come to their death by accident. This winter we are planning to place another like it in the same room, hoping it may help to interest and instruct the children in bird-life.

Many delightful outings have been enjoyed each year, often through the courteous invitation of members, several of whom have charming summer cottages near the city. Members have thus had an opportunity of adding to their lists of birds seen and heard. The winter birds that remain will be our comfort and care so far as we can do for them. We shall hope to see visitors such as Grosbeaks, Redpolls and Snow Buntings. Many Woodpeckers, Nuthatches and Chickadees come to feed near our homes.

We are trying to interest the Grangers in the preservation of bird-life. The President of our Club presented the matter to about three thousand members of the State Grange, who were holding a series of meetings here. The question presents itself, "Who should be interested if not farmers?"—(MRS.) J. C. BUZZELL, *President.*

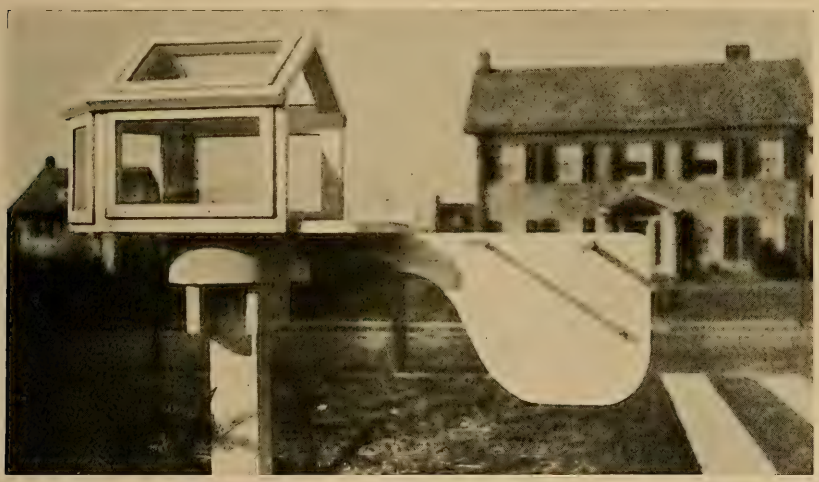
NEW YORK STATE GAME PROTECTOR DIRECTING BOY SCOUTS IN PLACING WINTER FOOD FOR BIRDS. SUET FOR INSECTIVOROUS BIRDS ABOVE, CORN FOR PHEASANTS BELOW.

NATIONAL PARKS ASSOCIATION

In May, 1919, there was organized in Washington, D. C., the National Parks Association. Its objects include such worthy subjects as:—encouraging the extension of the National Parks System, and increasing "the popular study of the history, exploration, tradition, and folk-lore of the National Parks and Monuments." This Association also desires "to encourage art with National Park subjects, and the literature of National Parks, travel, wild-life, and wilderness-living, and the interpretation of scenery."

The organization issues new bulletins from time to time to be sent to the press and for the enlightenment of the general public. One of the recent issues calls attention to the Yucca House National Monument, a prehistoric ruin a few miles west of Mesa Verde National Park in Colorado. Reference is made also to the Scott's Bluff National Monument recently established on the "old Oregon trail."

This organization is appealing to the public for financial support and its circular contains a blank stating that the annual membership fee is $3. The President is Henry B. F. McFarland, of Washington, D. C., and the Executive Secretary is Robert Sterling Yard, Room 914, Union Trust Building, Washington, D. C. This is a most worth-while undertaking.



A WEATHER-VANE BIRD FEEDING-DEVICE INVENTED BY W. L. D. BEDELL, NEW ARK, N. J. SUPPORTED BY A PIVOT IT SWINGS WHEN THE WIND BLOWS THE BROAD TAIL.

SAVE THE REDWOODS LEAGUE

An organization with the above title, with headquarters at 430 Library, University of California, Berkeley, has recently come into active operation. The literature states that the President is Franklin K. Lane, and the Secretary-Treasurer, Robert G. Sproul.

The objects of the organization and its work are set forth as follows:

"The Save the Redwoods League was organized to assist in bringing about a better and more general understanding of the value of the primeval redwood forests of America as natural objects of extraordinary interest as well as of economic importance, and for the purpose of bringing into unity of action all interests concerned with the movement to preserve such portions of these forests as should be saved to represent their fullest beauty and grandeur.

"The plans of the League involve:

(1) The securing of a belt of the finest redwood timber bordering the northern highway, in the hope that this area may become a state park. (2) The obtaining of a considerable body of the most typical primitive redwood forest known, for the purpose of a National Redwood Park."

To finance the work of the League an active campaign has been undertaken to enroll members with an annual fee of $2. All communications should be addressed to Mr. Sproul at the Berkeley address given prewiously.

NEW LIFE MEMBERS

Enrolled from January 1 to March 1, 1920

Andrews, Col. James M.
Barrie, Miss Marion
Barrie, Miss Muriel
Bell, Mrs. Gordon
Benkard, J. Phillip
Borland, William G.
Brown, Geo. McKesson
Brown, Miss Helen G.
Caldwell, R. J.
Cochran, G. D.
Cole, Mrs. Adelina A. (In Memoriam)
Connable, Mrs. John Lee
DeForest, H. W.
deRham, Charles
Fowler, A. A.
Grosvenor, Mrs. Rosa Ann
Housman, Mrs. A. A.
Jewett, Wm. Kennon
Judd, Mrs. M. E.
Leland, Henry M.
Letts, John C.
McCluer, Wm. B.
Megargel, Roy C.
O'Neil, Mrs. George Francis
Proctor, Miss Emily Dutton
Proctor Free Library
Proctor, Redfield
Rea, Mrs. Henry R.
Rockefeller, William
Shoemaker, Mrs. J. F.
Silverman, Arthur
Smith, Mrs. R. Penn, Jr.
Sullivan, Miss M. Louise
Thomas, Miss Georgine H.
Wadsworth, W. M.
Whiting, Mrs. Samuel R.
Wood, Miss Juliana

NEW SUSTAINING MEMBERS

Enrolled from January 1 to March 1, 1920

Acheson, M. W., Jr.
Alexandre, W. L.
Anderson, Miss Katharine M.
Armstrong, J. I.
Barksdale, Mrs. H. M.
Bell, Miss M. K.
Benedict, Mrs. Wm. L.
Bigelow, Mrs. Fred H.
Blodgett, Miss Harriet M.
Bolster, Richard L.
Borland, Mrs. John Jay
Boyle, Thomas L.
Boylston, Miss Margery
Brayton, Miss Caroline E.
Brill, Fred W.
Brooks, Frederick
Brooks, Theodore
Brown, Mrs. J. M.
Brown, Mrs. James P.
Carpenter, Mrs. E. M.
Carpenter, Hall B.
Carroll, Mrs. J. J.
Carus, Herman Dietrich
Cavaness, Miss Sallie
Chadsey, Miss Edith W.
Chandler, G. W.
Clark, Everett
Claypool, Mrs. George L.
Clegg, Mrs. George R.
Cobb, Miss Clara A.
Conant, Miss Helen
Converse, Mrs. Henry C.
Crosby, Miss Clara Wode
Curtis, Mrs. John S.
Curtiss, Miss Sophia
Cushing, Mrs. Lexington
Cushman, Mrs. S. F.
Dabney, Geo. B.
Demmon, Mrs. Marcia B.
Denison, J. H.
Dennett, Carl P.
Devens, Mrs. Elizabeth P.
Dexter, Miss Katharine S.
Dodd, Mrs. Henry W.
Douring, Miss A. R.
Dowd, Joseph
Dresser, Miss C. L.
Drury, Miss Miriam
Dudley, Miss C. E.
Dulaney, B. L.
Earl, Mrs. Elizabeth F.
Eaton, Miss Mary Josephine
Eby, Miss Irva
Edwards, Mrs. E. P.
Eells, D. P.
Ely, Gertrude

Ernst, Roger
Evans, Walter S.
Evans, W. Conroy
Fay, Mrs. D. B.
Fay, Mrs. W. B.
Fowler, Ralph N.
French, Mrs. James H.
Friedman, Mrs. Anna E.
Garcelon, Merrill
Gleim, Mrs. Amy L.
Goodrich, Mrs. A. B.
Gribbel, Mrs. John
Halsey, William A.
Hamlin, H. B.
Hixson, Mrs. H. R.
Hoadley, Miss Elizabeth N.
Housman, A. A.
Hull, Mrs. H. S.
Irish, Mrs. Linda
Jenner, Mrs. Edward
Johnston, John White
Kelsey, Virginia
Kendall, Miss Alice G.
Kietzinger, Mrs. Clara Wilson
LaDue, Harry J.
Leavenworth, Miss M.
Lewis, Dr. Richard H.
Loring, Augustus P., Jr.
McLean, Mrs. Nellie M.
Macpherson, Miss Elizabeth
Metcalf, Mrs. Wm., Jr.
Miller, Miss Matilda
Monroe, Burt L.
Musselman, Guy N.
Newberry, Mrs. A. S.
Noyes, Richard K., Jr.
Papin, Edward V.
Papin, Miss Julia M.
Perkins, E. Stanley
Pickford, Horace R.
Pierce, Col. P. E.
Pillmore, Mrs. Mary
Prochaska, Joe. V.
Rand, Mrs. F. C.
Randolph, Mrs. E.
Reed, Franklin C.
Revel, Miss Friedericka E. J.
Rives, G. B.
Roberts, Miss Miriam W.
Robbins, Mrs. Geo. S.
Rockefeller, Miss Alice M.
Rollmann, Fred C.
Rounds, Mrs. E. H.
Runk, H. T. B.
Rushton, Mrs. Joseph A.
Sawyer, Mrs. John P.
Schoenthaler, Fred C.
Shove, Charles M.
Société Provencher d'Histoire
Stewardson, Miss M. M.
Sweetland, E. C.
Taylor, Miss Marcia I.
Thomas, Mrs. George C.
Tiemann, Mrs. Ella A.
Torrance, Mrs. Francis J.
Tracy, William S.
Tuttle, Horace N.
Upham, Mrs. Clara S.
Voigtlander, George
Weeks, Mrs. Frank
Weil, Mrs. Julius E.
Wells, Ben G.
Wells, Paul A.
Welsh, Charles N.
Woolston, Mrs. Joseph L.

CONTRIBUTIONS FOR EGRET PROTECTION

From October 20, 1919 to March 1, 1920

Balance unexpended	$1,539 44
Ackley, Adeline E.	3 00
Allen, Gertrude	10 00
Allen, M. Catherine	5 00
Ash, Mrs. Charles G.	20 00
Auchmuty, Mrs. R. T.	200 00
Ault, L. A.	20 00
Babcock, Mrs. Perry H.	5 00
Bainbridge, Mrs. M. H.	5 00
Baldwin, S. P.	10 00
Ball, Susan L.	25 00
Bancroft, Wm. P.	25 00
Barclay, Emily	5 00
Baruch, Bernard M.	10 00
Beall, Mrs. I. A.	5 00
Berge, Marie T.	1 00
Bignell, Mrs. Effie	1 00
"Bird-Lover"	5 00
Bonham, Elizabeth S.	5 00
Bonham, Mrs. Horace	10 00
Brent, Mrs. Duncan Kenner	2 00
Brock, Mrs. Robert C. H.	5 00
Brooks, S.	$5 00
Brown, Mrs. Addison	5 00
Burgess, E. Phillips	3 00
Burnham, Mrs. Wm.	10 00
Burt, Edith B.	2 00
Busk, Fred T.	5 00
Butler, Mrs. Paul	10 00
Button, Conyers	10 00
Carse, Harriet	2 00
Chahoon, Mrs. George, Jr.	25 00
Chase, Helen E.	5 00
Christian, Elizabeth	2 00
Christian, Mrs. M. H.	2 00
Christian, Susan	10 00
Clark, Mrs. Louise	2 00
Cockcroft, Elizabeth V.	10 00
Collins, Mrs. Charles Henry	25 00
Coolidge, T. Jefferson	20 00
Cotton, Elizabeth A.	50 00
Cummings, Mrs. H. K.	1 50
Curie, Charles	5 00
Cutter, Ralph Ladd	5 00

Dabney, Herbert	$2 00
DeForest, Mrs. Robert W.	5 00
de La Rive, Rachel	5 00
DeNormandie, James	5 00
Ducharme, Wm. H.	50 00
Dusinberre, Mrs. Nancy B.	25 00
Eaton, Mary S.	5 00
Emery, Georgia Hill	20 00
Emery, Georgiana	1 00
Emery, Louisa J.	1 00
Emmons, Mrs. A. B.	5 00
Emmons, Mrs. R. W., 2d	10 00
Evans, William B.	4 00
Farwell, John V.	50 00
Forbes, Mrs. M. J.	5 00
Friedman, Mrs. Max	2 00
Fries, Emilie	1 00
Frothingham, John W.	35 00
Godeffroy, Mrs. E. H.	10 00
Gould, Edwin	100 00
Griffin, Mrs. Solomon B.	3 00
Hall, Mrs. F. A.	5 00
Haskell, Helen P.	2 00
Hopkins, Augusta D.	3 00
Horr, Elizabeth	5 00
Horton, Miss F. E.	2 00
Hoyt, Miss G. L.	5 00
Hunnewell, H. S.	50 00
Hunter, Anna F.	25 00
Jones, Ella H.	3 00
Jordan, A. H. B.	20 00
Kerr, Mrs. T. B.	1 00
Knowlton, Mrs. Myra R.	3 00
Kuhn, Arthur K.	5 00
Kuithan, Emil F.	25 00
Lagowitz, Harriet L.	1 00
Lewis, Edwin J., Jr.	1 00
McConnell, Mrs. Annie B.	50 00
Marrs, Mrs. Kingsmill	5 00
Martin, Mrs. Bradley	50 00
Mason, G. A.	10 00
Mason, H. L., Jr.	5 00
Merriman, Mrs. Daniel	25 00
Mills, Dr. Herbert R.	5 00
Mitchell, Mrs. John G.	10 00
Montell, Mrs. F. M.	2 50
Moore, Alfred	5 00
Mott, Miss Marian	$5 00
Myers, Mrs. Harriet W.	5 00
Nice, Mrs. Margaret M.	3 00
Osborne, Arthur A.	1 00
Paine, F. W.	25 00
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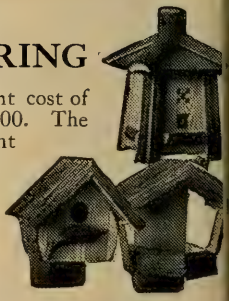

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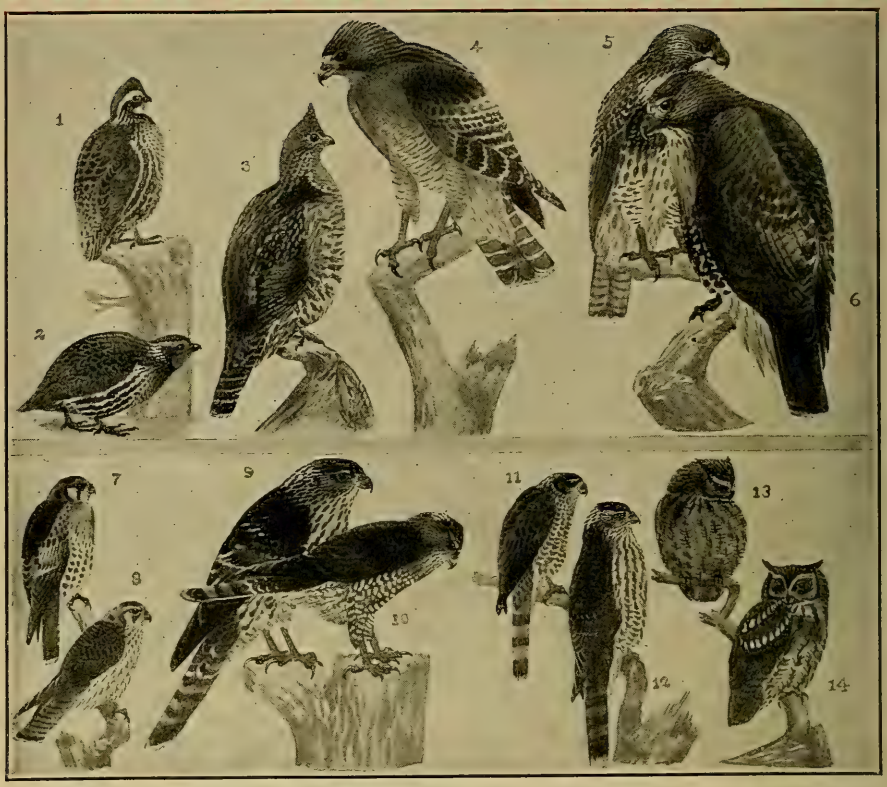

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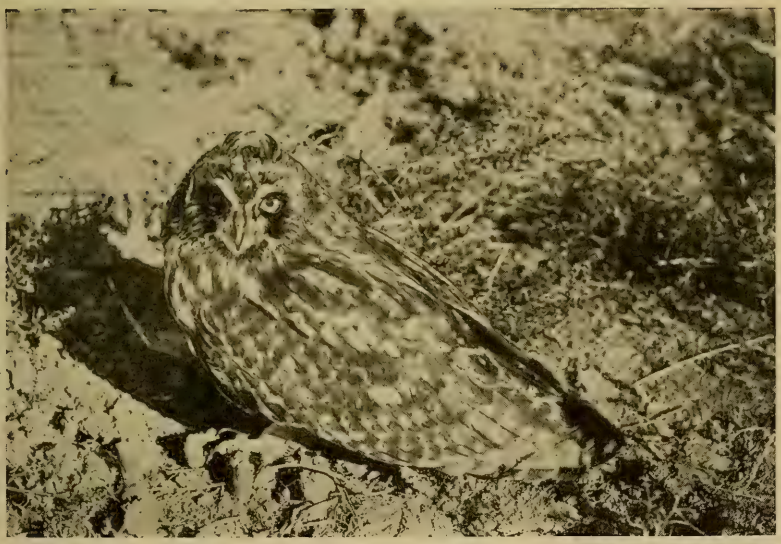

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May-June, 1920

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DEVOTED TO THE STUDY AND PROTECTION OF BIRDS
OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Vol. XXII | MAY—JUNE, 1920 | No. 3

Spring Thunder

By H. E. TUTTLE, New Haven, Connecticut

THE Bluebird's song on a warm day in late February, or the scream of the Red-shouldered Hawk, sailing in slow circles in the cloudless heights, wakes a vague longing for spring's greenery and the smell of last year's pine needles under a summer sun. I love the Bluebird's faltering lyrics and exult in the Hawk's defiance. The rigors of a New England winter have quickened the pleasures of anticipation.

But in April, from the birch thickets or along the stone wall of an abandoned woodlot, comes a more thrilling summons. It throbs with exuberant energy, beats out a stirring challenge to more sluggish hearts, and ends in a roar of muffled thunder. This is the true song of the pulsing sap; here is the call to more vigorous living. The Bluebird, and even the Red-shouldered Hawk, fly south before the frosts have stripped the maples of their glorious liveries, but the Ruffed Grouse is of stouter heart. They are but spring's harbingers; he is the sturdy native that endures the winter's snows. Those who rise early on spring mornings may hear the air tremble to the throbbing wing-beat of the cock Partridge, and go their ways rejoicing for the inspiration of that impetuous outburst.

If your path lies along some forgotten 'tote-road' where the leaves are soft with last night's dew, you may steal upon the drummer unaware. Standing stiffly on a log that has lain dead for generations, he watches from a screen of friendly birches. Head up and crest erect, he is the embodiment of unceasing vigilance. The jeering cry of a Blue Jay is not unworthy of his attention; the sudden jump of a chipmunk among the damp leaves does not betray him into revealing motion. Assured that the Blue Jay's note is innocent of warning, he turns slowly about, shifting his feet uneasily, as if to obtain a better stance on the log. Partially squatting to steady himself, his head thrust forward, his tail spread into a horizontal fan, he takes a quick outward and downward stroke with his wings. For a fraction of a second they hang limp at his sides,

flash out once more to beat the air three times in rapid succession, and are stayed again while the bird draws himself erect, braces his tail across the log, and seems to fling the whole force of his physical being into the next wing-strokes, till the short, staccato thumps run together and reverberate in the roar of the roll. While the madness of the moment is still on him, he rises on tiptoe, his tail carried high, his ruffs spread, as if to challenge an unseen rival. A moment after, his tail droops slowly and the ruffs subside.

From a hillside a quarter of a mile away there travels on the still air the measured thumping of another Grouse, while from the shelter of a swamp, even farther away, comes a half-heard pulsation, like a distant echo. It is a mysterious and subtle summons.

If you have withstood all temptations to move hand or foot during the interval of silent watchfulness that follows the drumming, you may see a repetition of the performance, but seen or heard a hundred times, the mystery will remain. It is white magic played in open sunshine.

Though the dawn receives the larger share of this martial music, the setting sun is not without honor, and even the moon has power to wake in the Grouse the desire to mount his log and beat the night air with his wings. It was on a cold night in April that I lay on the ground in the moonlight and the mist, about a hundred yards from a well-used drum-log, while a cock Grouse, unmindful of the hour, drummed until just before the sun rose. A Whip-poor-will sang, and I shivered under a single blanket, but in spite of the cold, or because of it, the Grouse sent out his booming call at three-minute intervals, like an inland fog-horn of the dripping woods.

I will confess to an absorbing fascination in the habits of this bird, and, oftener than any note of Thrush or Warbler, the drum-beat of the Ruffed Grouse has lured me from the trail, and led me, like a will-o'-the-wisp, upon many a winding quest; for there is a ventriloqual quality to the drumming that provokes curiosity as to its source and at the same time disarms pursuit.

You must be an adept at crawling if you would watch this bird at close range, and even then fortune must favor you. By walking swiftly in his direction every time that the bird drums and by remaining motionless during the interval of quiet, you may sometimes approach to within thirty yards, if the cover be thick or an intervening ridge hide you from view. Whether you succeed in creeping nearer depends upon the position in which the Grouse is standing, the cover which you may utilize for your concealment, and your capacity for remaining motionless in whatever intolerable position the cessation of the drumming may find you. On one occasion, by taking advantage of two large stumps that lay between me and the log on which he was strutting, I was able to crawl to within twenty feet of a cock Grouse, from which point of vantage I watched him drum to my heart's content. At another time, at the edge of a little alder swamp, where the ground was soggy and no tell-tale leaf or dry twig betrayed my tortuous progress, I succeeded in reaching the upturned

"A QUICK OUTWARD AND DOWNWARD STROKE WITH THE WINGS"
Photographed by H. E. Tuttle

roots of a prostrate tree on the other side of which was the watchful Grouse. I held my breath while I peered around the earthwork which clung to the roots and discovered the tail-feathers of the drumming bird braced across the log, scarcely ten inches from my nose!

The use of a denim blind makes crawling unnecessary, and from this shelter, if you have set it up with caution and entered it before dawn, you may watch the drumming with comparative comfort. I have often been grateful to the naturalist who by this simple but effective method of concealment first beguiled the birds in their innocency. Hidden from all espionage beneath its folds of dappled green, I have watched the cock Grouse walk to his drum-log with noisy footsteps, confident after an hour of stealthy reconnoitering that no hostile eye intruded on his privacy. Here he felt safe to indulge his vanity and preened each feather, disarranged by the abandon of his resounding wings. To this log at the top of a second-growth ridge he repaired each morning while the stars were yet bright above the tree tops, greeted the dawn with his thunder, and stole away again before the sun was high.

The sounds of spring have each their haunting appeal, from the peeping of the hylas to the Woodcock's eerie song among the stars, but for me the vibrant drum-beat of the Ruffed Grouse, throbbing on the moist spring air, beckons me to the wildness of the hills with a voice that will not be denied.

SHORT-EARED OWL
Photographed by J. H. McClelland, Arnegard, North Dakota

Cedar Farm and Two Wrens

By ANNA ROGERS ROBERTS, Marietta, Ohio

CEDAR FARM is like, yet very unlike, other farms. The same hills, the same creek, the same meadows, and the same dark green and vivid yellow banks, the same ravines and wild life—yet different. An undefinable charm envelopes the quaint setting of house, lawn, and garden, of outlying buildings, orchards, and pastures. The front of the house faces uphill, and the red, red road may be seen like a long streamer trailed in the hands of an angry child who jerks it here and there wantonly. The back of the house is turned toward a large meadow; just beyond are the lumpish banks, the lazy water, and the low hills. Enormous trees—elm, oak, beech, walnut, chestnut, and mulberry—stand, sometimes singly, often in groups.

A birds' paradise is Cedar Farm, and right well they know it, for the owners find in their daily care of the feathered folk the reward of their friendship, faith, and yearly presence. The homemade devices for feeding and watering the birds, which are seen in unexpected places, are usually crowded in winter and not wholly abandoned in summer. The shy wanderers soon learn that homes built on Cedar Farm are safely sheltered.

So two Wrens found it, and here follows an account of their activities:

It was in April. Roads were miry, hillsides were sodden, meadows were swampy, but each day the sun drew new, pungent odors from the soil, and a green haze enveloped trees and vines.

My room in the large, comfortable farmhouse, was a clean, cool one, with walls, ceilings, and floors of oak, homemade rugs, white muslin curtains over small deep windows, and furniture of one or more generations ago. Prints of famous pictures and photographs of noted places hung low in the alcoves, and a set of shelves held books carefully selected by the five sisters who lived in this questioning house, for it ever asked, "Won't you come in and rest?" When the invitation was accepted, evidences of a culture only possible to those in love with Nature were abundant.

I had had a long tramp the day before I met my Wrens. I found the spring migration well advanced. Birds were busy exploring former homes and finding sites for new ones. Not an unanswered mating call rang through the woods, a call unchanged through the ages, yet warming the heart, as it sensed the honest, reckless passion throbbing in every note.

I had retired early and slept late, and that, to Mrs. Jenny, was an unwise thing to do on this wonderful spring morning. Open windows piqued her curiosity, and, seeing no movement, she entered and perched herself on the footboard of the bed on which I was lying. She flew to a small shelf enclosed at both ends and vacant, but for a few bottles at one side. Carefully she scrutinized every inch of this shelf, and then her bright eyes snapped decision. Her impersonal air of yesterday became one of intense self-consciousness today.

With a dive out the window she went after Johnny,—*and she got him!*—brought him in, not to investigate, but, after the manner of her sex, to show him the location of their home and tell him to get busy! He approved, of course, and the building began at once.

If human beings had the energy of Wrens, and it was all directed, as is a Wren's, towards home-making, I wonder if a League of Nations would be necessary.

It tired me to watch their furious activity. By night, the shelf was full of sticks, strings, grasses, feathers large and small from the poultry-yard,—and hair! Their manner of procuring that hair was a wee bit like a nation seeing a fine harbor or a stretch of land rich in minerals, saying, "I need that harbor, or that land," and proceeds to take it whether the owner likes it or no. Jenny grew bold as the day advanced and gathered material from the room for this famous nest. Seeing a hair braid on the dresser, she tried to take it to the nest. It was too heavy. She pulled separate hairs, got her feet tangled, fell over the edge of the dresser in comical confusion, called the best she could from her wrapping for Johnny, who came, but was terrified at the predicament of his mate, and could do nothing but utter loud shrieks while Jenny rolled, tugged, feebly flapped her strong wings until she extricated herself. Then, womanlike, she made a dash at Johnny, hit him a powerful blow, and he fled—but *she* did not. This man-made thing baffled and angered her, and she was resolute to possess it. Back and forth she jerked it, this way and that, but the hair held fast. She stood on it and pulled, fell over, attacked it again and again, and her eyes grew vicious as she remembered how easily she had secured the nice long sorrel and white hairs off fence-rails and thorn bushes. For half an hour she stubbornly held to her task, and succeeded in breaking off a few ends, leaving the braid on the floor much the worse for her encounter with it.

In a few days the small hole in the center of all this rubbish was rounded and padded, and Mrs. Jenny became quiet long enough each morning to lay a small, speckled egg, until seven were there, packed on end so close one could not be moved without moving all. Then, the miracle. Her restless, quivering, little body grew motionless with a great mother yearning as she hovered over the chocolate-splotched eggs. This was Johnny's Great Opportunity, and he met it squarely. Every hour of the day, inside the room, or nearby on a tree, his song could be heard. His *whit-ty-yer*, *whit-ty-yer*, was a pathetic inquiry, while the usually far-carrying trill was softened and anxious. There was an elbow in the stovepipe in the room (for there were cool days occasionally), and on this he would perch and sing. One morning he gave his concert from the same pillow I was using.

Poets poetize over the devotion of the Cardinal to his beautiful mate. The amorous Doves are the apotheosis of Romantic Affection, but Johnny Wren is as ardent as either and as constant. Her nervous nature keeps her close to the nest; his loyal love keeps him close to her.

One morning he did not sing. There was a hurrying in and out the window, and, peering close to the nest, I saw a bundle of bones, hairless and damp, huge mouths and blind eyes! But how beautiful they were to Johnny and Jenny! A tax was levied on every bush that held a worm, and from dawn until the evening insects shrilled their tiny horns, this tax was collected.

On a memorable day, seven helpless, sullen-mouthed, heavy-eyed birds sat on the floor, pictures, chair, bed, anywhere, while father and mother called, coaxed, and threatened them to try their wings and come to the garden. It took two hours to get them out in the plum tree. One by one they flew, hopped, and crept to the garden—and I saw them no more!

Two weeks later I found Mrs. Jenny investigating a school desk on the south porch. A repetition of the same homely drama followed: Johnny liked it perforce, the nest was built, the eggs laid, but someone unfortunately touched them and this new home was abandoned.

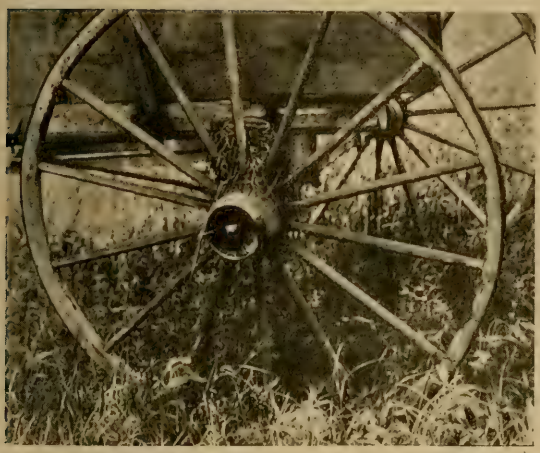
A few days later I saw Mrs. Jenny dash impetuously into the wash-house and followed her. An empty paint-bucket, hung near the door, was her choice this time, and its brown wrinkled interior was cleverly concealed by the huge nest. Once more were the mystic seven eggs laid, close together, and once more was the old, old tragedy enacted—for birth is a tragedy. Not only were worms plentiful, for it was July now, but also the small, luscious fruits of the garden were abundant. For days I watched this little family grow. Jenny knew which one had been fed last, and if it thrust its long, thin neck and yellow mouth up too high, she would chastise it with a stroke of her bill that I know must have hurt. The day she made them leave the nest, I tried to help, but succeeded only in scaring and scattering them. An hour or so after I left them, the friendly plum tree held them and then the garden! Snakes and Hawks were in that garden, and I tried not to think of those fourteen baby Wrens that had gone to live in it.

Evidently Mrs. Jenny believed in the husband looking after the children, for shortly after she was endeavoring to reach her first nest through the window, but it was screened now and she had recourse to the paint-bucket. This time only four eggs, four birds, the handy plum tree, the garden that drew them like an octopus, and her season's work was done, for autumn's yellow sere had fallen on the meadows, banks, ravines, and hills. Eighteen little Wrens were mothered by this tiny bird in one summer. She knew the number when they left the nest. But did she remember when they reached the garden? She is a rebuke to those who believe race suicide beneficial, and Johnny lives true to the tradition of the patriarchal father at the head of the tribe.

TWO PORTRAITS OF A SITTING WOODCOCK
In the upper picture the camera was within 36 inches of the bird, which, however, showed no alarm
Photographed by Ward B. Perley, Jr., Ojibway, Ont.

Some Robins' Nests

By WILBUR F. SMITH, South Norwalk, Conn.
With Photographs by the Author.



A ROBIN'S NEST ON A WHEEL-HUB

A FRIEND who had visited Gardiner's Island told me of the remarkable tameness of the birds nesting there, which he claimed was due to the long years of protection they had had on the island. Some Robins, whose nests I have studied in the past few years, show an equal confidence and tameness on the part of the birds, and a care and consideration for their safety on the part of the persons interested, and it would seem that if my friend's deductions are correct, that the leaven of bird-protection is working in Connecticut, when a description of these nests becomes worth while.

One nest was built on the hub of a farm wagon left for awhile in the orchard. When the owner went to use the wagon he found four eggs in the nest, and he borrowed a neighbor's wagon until the young had flown.

Another Robin built a nest on the smoke-pipe where it came through the back of a building. It, too, had eggs in it when found, and to make a fire in the stove meant destroying the eggs, so the owner built a shelf against the building and moved the nest to it, where it was occupied by

A ROBIN'S NEST ON A SMOKE-PIPE WITH THE SHELF TO WHICH IT WAS MOVED

the birds. This nest was built of the fine sprays of hemlock, showing the effect of environment upon the nest material.

There must have been a sociable trait in the pair of Robins that built on the support to the roof over the station platform at Wilton, Conn. The hurrying passengers and the thundering trains did not disturb the sitting bird in the least. One could see her tail over the edge of the nest when on the platform.

It seems sure that birds come to know certain people, or to lose their fear instinct when these people are about their regular duties. How else can one

BLACKSMITH SHOP WHERE A PAIR OF ROBINS RAISED THEIR FAMILY WITHIN RANGE OF THE SPARKS FROM THE ANVIL

Note the missing window-pane, removed to permit the birds to enter when the door was closed

interpret the actions of a pair of Robins that built their nest over the door of the Bangall school. The teacher could stand on the porch and ring the hand-bell and the children pass in and out through the door many times a day without the birds leaving the nest, but they resented my simply standing and looking, and as for taking a photograph, it sent the old birds into a frenzy.

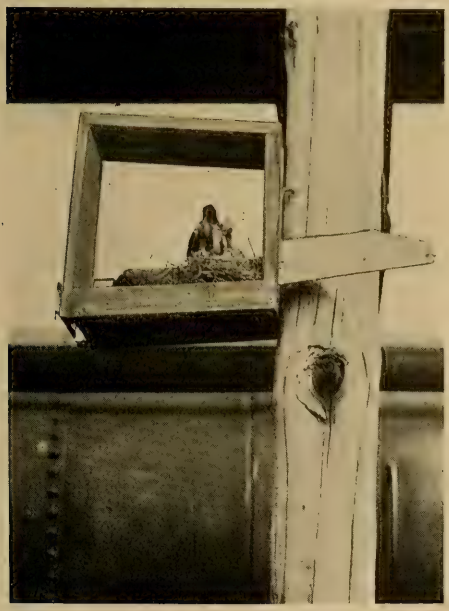
Stranger still was the fancy of a pair of Robins that built their nest inside of Seymour's blacksmith shop on some iron used to re-tire wheels, and within eight feet of the anvil before which the blacksmith worked most of the day. The noise of pounding on iron, flying sparks, and kicking horses while being shod—all was accepted and her eggs hatched and young raised. Let a stranger

enter the shop and she would leave at once, and from a perch on an old wagon-wheel or a nearby tree, protest against his presence.

The kindly blacksmith, by taking out a glass from the window on the side of the shop, enabled the old birds to pass in and out through this opening when the shop door was closed.

RAILROAD YARD WHERE A ROBIN'S NEST WAS MOVED THREE TIMES

But these examples of the birds' confidence in man and man's kindly interest in the birds' welfare are dwarfed by the history of a pair of Robins that built their nest on the under side of an oil-tank car standing near the center of the busy yards of the Standard Oil Company's plant at South Norwalk, last June. The nest was known and watched by the workmen and six eggs were laid—an unusual number—before the car was filled with oil and ready to be started out on the road.



ROBIN FEEDING YOUNG IN THE STANDARD OIL COMPANY'S YARD AFTER ITS NEST HAD BEEN MOVED THREE TIMES

The foreman, not without some misgivings, removed the nest while the switch engine took away the car and shunted another tank car as near as he could to the place. The nest was carefully placed in the same relative position on the new car and the birds returned at once. This car, too, left the yards, and a third car, to which the nest had been transferred, was also billed to leave. The foreman was puzzled to know what to do as there were now four half-grown birds in the nest.

A happy thought came to him when he built an open box and nailed it to one of the posts of the platform used by the men in filling

the tank cars, and put nest and young in the box, now thirty feet from its first location. Here they finished housekeeping, and at the time the picture was taken, showing the female feeding the young, the switch engine was at work removing and replacing cars and the whole aspect of the yard changed. Over and under new and old cars, past hurrying workmen, the old birds kept at work as though a railroad yard was as quiet and safe as a forest glade.

And, in passing, it might be mentioned that all the men in the yard were keenly and sympathetically interested in this bird's nest, and had anyone disturbed it, there would have been 'something doing,' with brawny arms to back it up.

All of which seems to show that the spirit of bird-protection is taking hold of the people, and, where once it has rooted, that place is a pretty safe one for the wild birds to call home.

CRESTED FLYCATCHER ABOUT TO FEED YOUNG
Photographed by Jesse L. Smith, Highland Park, Ill., July 2, 1918

A Much-used Robin's Nest

By A. D. DuBOIS, Chicago, Ill.

THE MUCH-USED NEST AND ITS HUNGRY OCCUPANTS

IN the fall of 1909 we moved into an old frame house and I established my 'den' on the second floor. The room had two windows. Near one of them, at the corner of the building, was a down-spout for conducting rain-water from the roof. At the offset in this conductor pipe, saddled securely on the elbow against the house, was an old Robin's nest, well sheltered from rain by the projecting eaves.

The following spring, on April 24, we watched a Robin gathering material for repairs, and the next day saw her sitting on this nest under the eaves. On the 26th, at 7 A.M., an examination, by means of a mirror, disclosed one egg in the nest. The second egg was deposited during the same morning, the third during the latter part of the morning of the 27th, and the fourth on the morning of the 28th. During the intervals of laying, the bird spent a part of her time on the nest but was frequently observed in the horse-chestnut tree just opposite the window.

On the afternoon of May 15 there were four young Robins in this nest, and the female was bringing them worms. By the 23d the young were large and well feathered and their father was in full fighting trim. When I went to the open window to look out at the nest, he dashed at my head, striking me a sharp blow on the forehead.

The young left the nest on May 24, twenty-six days after the last egg was deposited, and were at once able to fly. It was the last that we expected to see of the Robin family, and we left them to feed in the garden or on the lawn.

The next spring, under date of April 15, our journal relates that a Robin flew up and sat on the nest under the eaves. Again, on the 21st, the bird was seen to fly to the nest and, the next morning, while sitting at my desk, I saw a Robin gather mud, across the street, and fly with it to the eaves nest. At 8 A.M. on the 24th she was sitting on the nest, and when she left, at 8.30, the nest contained one egg. The fourth and last egg of this set was deposited during the morning of the 26th.

The four young were hatched in the night of May 8 and 9, one of the egg-shells being yet in the nest at 6.30 in the morning. The period of incubation had been thirteen days.

By the middle of May the nestlings had grown until they filled the nest, and the parents were showing their fighting blood by attacking us fiercely whenever we ventured to put our heads out of the window. On the 17th both windows were open. I had been standing at one of them, looking out, and had

THE LOOKOUT IN THE HORSE-CHESTNUT TREE

withdrawn into the room, when the female bird made a surprise attack. She dashed into the room through one of the windows, grabbed viciously at my scalp with her claws, completed her invasion with a circle around the room, and then flew out through the other window. I was so startled by the sharp pain and the suddenness of the onslaught that I failed to make note of further details, but I believe the attack was a strictly silent one as I cannot recall any vocal sound.

On May 22, twenty-seven days after the complement of eggs had been deposited, the young were out of the nest and one of them was sitting in the

hawthorn bush under the window. The remainder of the training of this family must have been very intensive, for our journal under date of June 24 exhibits the following entry: "The Robins are nesting again in the old nest on the down-spout by the study window; the female is sitting on four eggs." Our first intimation was the conduct of the male; and if we ever doubted that these birds were the same as before, the doubt was soon dispelled by his characteristic 'personality.' When I came to the window, as he sat in the opposite tree, he showed his displeasure in his accustomed way, snapping his bill and bowing his head with a profound and challenging courtesy. His mate also exhibited the same peculiar actions as before. The attitude of both birds was that of the over-zealous owner who has always held possession, undisputed, and will tolerate no intrusion. They tried to drive an English Sparrow from the chestnut tree. The Sparrow darted about among the branches with the tenacity characteristic of his breed, and with admirable agility, but the Robin, in hot pursuit, with snapping bill, eventually drove him from the premises.

A few days later we left for a vacation. When we returned temporarily on June 28, the eggs had not hatched, but by July 8 there were half-grown young in the nest. At that time we photographed the 'fighting female' in her tree opposite the study window. The young left the nest on July 17, but their father was still snapping his bill at us on the following day.

Before the return of another nesting season we had moved away, but we made inquiry, by letter, of the owner of the house, who knew of the old nest and our interest in it. The following was received in reply:

"*Ithaca, N. Y., Aug.* 20, 1912.

"Mr. L. forwarded your letter to me from New York, not having observed the birds' nest, which is still there and has had two broods this summer, one before I came home and one a few weeks ago."

The subsequent history of the militant Robins and their much-used nest has not been recorded; and as to its 'prehistoric' origin and occupation, you can guess as well as we. Of this much, however, we are certain: The same nest, with slight repairs, served for at least six broods of Robins.

Photographed by Verdi Burtch, Branchport, N. Y.

Photographed by Arthur A. Jeffrey, Maryville, Mo.

TWO FOX SPARROW PHOTOGRAPHS

The Way of the Wren

By KATRINE BLACKINTON, Blackinton, Mass.

HE made his stage-entrance last spring at the garden-corner of the house. While transplanting some perennials, my eye caught a cinnamon streak darting into the eaves-pipe, simultaneous with a shiver-bubble or two of an unmistakable Wren song. Down went watering-pot and trowel, for here was promise of something worth while. Could it be that a house-hunt was in progress? Suddenly, out hobbled the brown streak from the eaves-pipe, with a particle of silt in his bill which he deposited into the ether, much as a bustling housewife would snap her duster, and darted in again, repeating the performance until a thorough job was made of it. The tin gutter under the eaves also received his attention. I could hear him scuttling along the gutter-floor and see him appear by flashes at the edge upon occasion of depositing overboard a particle of silt. Soon the apple tree over my head caught this cinnamon meteor, and there ensued such an outpour of effervescent shivering bubbles that I couldn't but suppose that just the house he had been looking for had been found and there only remained the question of his wife's approval.

It was with some surprise, then, that the following day I saw the same scene being enacted on the eaves and gutters of the barn—the same scene with a drama attached.

A pair of English Sparrows had established themselves in a hole under the eaves at the east gable of the barn, and had a family of five lusty Britishers just launched into this troublesome world. When the sanitary inspector reached the east gable, I was somewhat taken back by seeing him shoot into this Englishman's castle without as much as by your leave (a truly Prussian performance, now, wasn't it?), only to bob out again with a white feather in his bill! The peeping protests of the youngsters strengthened my belief that their warm bed was being removed by this hustling aggressor. His manner in ejecting the feathers said "Dear me! it will be war to the death until I teach these birds to keep clean!" The hole swallowed him again, and again a thin, piping chorus of protests, and another feather took its rudderless course to earth. The third time the feather was carried to a nearby apple tree where it was carelessly released amid an intensive outpouring of Wren free-speech directed to any it might concern. At this point Madame Sparrow, who had evidently been viewing this offensive intrusion at a safe distance, entered her home with a morsel in her bill and concern in her manner. Now the drama was in full swing! Back flew the Wren, sure enough, to the Sparrow entrance, with all his importance and *n*th power initiative, but, instead of dashing in, he suddenly right-about-faced and the apple tree caught him again. While he was explaining, in true Ludendorf style, to a solemn Bluebird pair, who weren't in the least interested, that his retreat was entirely on strategic lines, my eye

caught the owner of the castle standing on the corner of the gutter facing his front door, challenge in every line of him. Right here, at this vital juncture of the drama, I had to leave the scene of action. I was gone about two hours, and, upon my return, I found the sod under the Englishman's castle white with feathers, and, could it be,—yes, there actually was a newly hatched dead Sparrow, pitched out during the fight that must have ensued. If I had not heard the aggressive voice proclaiming victory from a nearby tree I would have been worried for fear an awful justice had overtaken him, but I must say his tone was reassuring in the extreme.

Not knowing the way of Wrens, I interpreted this anti-British campaign as expressing the fact that he had centered his desire for a house on the Englishman's property, and at once enlisted my services in his behalf. A man scaled a ladder and evicted this budding, though browbeaten family in the most radical fashion. The apartment was then thoroughly hosed out and a new doorway erected through which only a Wren might pass. Now, will you believe me when I tell you that that fickle, erratic housebreaker showed not the slightest interest in that establishment from that time on? Every time I heard his tea-kettle song in the orchard, I hied me forth to see what his next move would be. Where was Mrs. Wren? Was he a bachelor or widower (grass or plain)? I was obsessed by that Wren and his business, as was my neighbor and friend whose garden joins mine. She reported one day that he had visited her mother as she sat in the open window facing the veranda, had lighted on the back of a chair, raised his head, lowered his tail, and given a perfect demonstration of how the tea-kettle sang to the Cricket on the Hearth. Of course we speculated every day as to where that bird who didn't know his own mind two minutes together would build.

When my patience was nearly exhausted, it dawned on my intelligence that the Packard Chickadee house on the black walnut tree at the edge of my garden, and only a step from my neighbor's, was displaying a Wren nameplate in the shape of a stout twig placed in the doorway to bar all intruders. Wild excitement in the garden! What a chance to study the nest and the young birds! We saw two Wrens going in with food in their bills and heard the *me! me!* chorus that day and the day after, and the day after that we found the house deserted by a family big enough to fly away in the early hours. There we were, intrigued, baffled, and cheated by that little play-actor. Will anyone take exception when I say the way of the Wren is deep?

Notes from Field and Study

Bird-Banding Work Being Taken Over by the Biological Survey

The Bureau of Biological Survey, at Washington, D. C., has taken over the work formerly carried on under the auspices of the Linnæan Society of New York by the American Bird-Banding Association. In taking over this work, the Bureau feels that it should express the debt that students of ornithology in this country owe to Howard H. Cleaves for the devotion and success with which he has conducted this investigation up to a point where it has outgrown the possibilities of his personal supervision.

Under plans now being formulated, this work will give a great amount of invaluable information concerning the migration and distribution of North American birds, which will be of direct service in the administration of the Migratory Bird Treaty Act, as well as of much general scientific interest.

It is desired to develop this work along two principal lines: First, the trapping and banding of waterfowl, especially Ducks and Geese, on both their breeding and winter grounds; and, secondly, the systematic trapping of land-birds as initiated by S. Prentiss Baldwin, the early results of which have been published by him in the Proceedings of the Linnæan Society, of New York, No. 31, 1919, pp. 23–55. It is planned to enlist the interest and services of volunteer workers who will undertake to operate and maintain trapping stations throughout the year, banding new birds and recording the data from those previously banded. The results from a series of stations thus operated will undoubtedly give new insight into migration routes, speed of travel during migration, longevity of species, affinity for the same nesting-site year after year, and, in addition, furnish a wealth of information relative to the behavior of the individual, heretofore impossible to obtain because of the difficulty of keeping one particular bird under observation.

The details of operation are now receiving close attention, and as soon as possible the issue of bands will be announced, with full information regarding the methods to be followed and the results expected. In the meantime, the Biological Survey will be glad to receive communications from those sufficiently interested and satisfactorily located to engage in this work during their leisure time, for it is obvious that a considerable part must be done by volunteer operators. It is hoped that a sufficient number will take this up to insure the complete success of the project.—E. W. Nelson, *Chief of Bureau, Washington, D. C.*

Winter Notes from West Medford, Mass.

Our house in West Medford, Mass., is situated in a cedar pasture (where sumac, barberry, privet, and woodbine berries are abundant) between Middlesex Falls and the Mystic River. In this exceedingly cold winter, when the ground is covered with deep snow, hiding the food-supply of our birds and driving the northern birds south, we have had such an unusual experience that it seems worth while to record it.

From January 1, Redpolls have been here in great flocks; then a Snowy Owl and Northern Shrike appeared in our neighborhood. The particular events of the season have been since February 12. On that day my telephone rang to ask me to identify a large flock of white birds which proved to be Snow Buntings (fifty-two, by actual count) which are being fed regularly by one of my friends two minutes away from our house. At the same place are 17 Pheasants. These birds have been a continual delight to many people for the last month. During the blizzard of March 6, the Snow Buntings went under a hedge, dug away some of the snow, and settled down to rest comfortably, first, however,

scratching the falling snow from their faces with their feet—a pretty sight.

During the last week in January, 9 Pine Grosbeaks appeared. January 31, 6 Evening Grosbeaks, which were joined by 6 more on March 1, with an equal number of full-plumaged and gray birds. February 29, a flock of Cedar Waxwings came, and with them 2 fully identified Bohemian Waxwings. March 1, either on our place or within five minutes' walk, were 12 Evening Grosbeaks, 9 Pine Grosbeaks, 10 Redpolls feeding on maple buds, 52 Snow Buntings, 3 Juncos, 3 Tree Sparrows, 1 Long-eared Owl, 2 Hairy Woodpeckers, 2 Downy Woodpeckers, 1 Flicker, 3 Purple Finches, 42 Cedar Waxwings, 10 Starlings, 2 White-breasted Nuthatches, 5 Chickadees, 5 Blue Jays, and 3 Robins.

There are two flocks of Cedar Birds, the large flock and a smaller one of fifteen with which the Bohemian Waxwings consort; the small flock was not seen on March 1, but came again on March 3. They fed upon the fruit of two hawthorn trees near our house and also upon the few cedar berries which are left.

The Long-eared Owl was seen by Mr. and Mrs. Alan Claflin, of West Medford, and the Bohemian Waxwings were first seen by them on February 28, and reported to me. I saw them at 8.30 A.M. on February 29, and several times during that day. Many of us here fed the birds all winter and feel repaid by the great pleasure they have given us.—LIDIAN E. BRIDGE, *West Medford, Mass., March* 9, 1920.

Evening Grosbeaks at Boston

On Feb. 16, 1920, a flock of Evening Grosbeaks appeared in the garden of St. Johns House, Arlington Heights, Boston. They remained all day. On the 26th, during a heavy snowstorm, a male Grosbeak came to the library window, evidently trying to get in. The window was opened, he came in and commenced eating a geranium leaf. After a while he gave a clear, loud, flute-like whistle, which one of the Sisters interpreted as a demand for food. Worms and seeds were brought to him, and he remained all the afternoon, not in the least afraid of the Sisters or children. When it grew dark he flew off into the pine woods back of the convent.—F. C. POWELL, S.S.J.E., *Boston, Mass.*

Evening Grosbeaks at Nyack, N. Y.

A flock of perhaps a dozen Evening Grosbeaks made its appearance in Nyack, N. Y., the last of February, 1920, and at the date of writing (April 12) is still in that vicinity. The birds evidently spend the night at some point farther south, arrive about 9 o'clock each morning, stay for an hour or so, and disappear until the next day, with an occasional visit in the afternoon.—MARY L. EMERY, *Nyack, N. Y.*

Winter Birds at Ridgewood, N. J.

This last winter was the severest in the memory of most of us, and, while filled with many hardships, it brought great pleasure to some of us living in the country. At Ridgewood, N. J., we fed many rare birds. Our pleasure was, however, somewhat marred when we realized that their visits pointed to the fact that they must have been great sufferers from the severity of the season, as so many were utter strangers to this section, the largest numbers being the Evening Grosbeaks. They were first observed, 5 in all, on January 23, at the home of Mrs. Carl M. Vail. The next day 11 arrived, and, after that, more and more each day. On February 15, 29 were at the feeding-table at one time, and more were in the trees. They were reported at seven different homes here, where the winter feeding of birds is carried on systematically. They came, invariably, between 6.30 and 7 A.M., and ate greedily of the sunflower seeds put out for them. They ate cracked corn, also buckwheat, but preferred the sunflower seeds. Their habit was to remain around the feeding-place all the morning, when they would disappear for two or three hours and then return for more seeds. As late as April 9, 42 were counted in one place. On April 11, two pairs came, and on the

15th the last pair paid a short visit, then departed.

Other winter visitors were Pine Siskins, seen nearly every day during this past season, 11 counted at a time. After a heavy icestorm, 2 White-winged Crossbills were noted and 1 Pine Grosbeak. December 25 and February 22 a Robin appeared. One Sharp-shinned Hawk, many Redpolls, flocks of Fox Sparrows, and also large numbers of Purple Finches were seen. Of course we had our usual winter feathered friends.—(Miss) Florence de la Montagne Bunce, *President of Ridgewood Branch of New Jersey Audubon Society.*

Migration of Ducks and Geese at Winthrop, Iowa.

November 11, 1919,—the first anniversary of the signing of the armistice—was a warm and beautiful day, after a cold and windy night. Until then very few Ducks had been seen migrating in the fall of 1919, but that day thousands of them passed, going southward. Early on the morning of November 11, the first flocks of Ducks were seen flying over, and they continued to do so for several hours on that morning. I was working not far from Buffalo Creek at that time, so had a good chance to watch the flocks of Ducks which were very frequently passing overhead.

My attention was first attracted by three enormous flocks of about one thousand birds in each. These flocks flew over a section of Buffalo Creek which, apparently, was to their liking, for they wheeled at once, and at a slight angle, sailed to the ground. When on the ground they attracted other smaller passing flocks, which also dropped to the ground. Nearly all of the smaller flocks consisted of only ten or fifteen Ducks, while some contained but four or five. Once in a while a single Duck would be seen flying a long ways behind a flock.

The place where most of the Ducks alighted was only about a quarter of a mile from where I was working, and they could be plainly seen rising from the creek and turning in the air, to sink again to the same spot. When these large flocks rose into the air, they reminded me of nothing so much as a huge swarm of bees. It was a beautiful sight to watch—these thousands of Ducks as they turned in the air, the sun playing on their light wings and white underparts. They stayed in this vicinity for about two hours, I believe, but I did not see them leave the place.

During this period one of the largest fall freshets in years had turned small Buffalo Creek into a mighty river, covering all the low pastures and land near it with its water. These flooded ponds in the pastures were frequented by the Ducks. Scores of hunters went after the Ducks and killed many at this season. About noon on November 11, as I approached the creek, two (shot gun) shots were fired and several thousand Ducks flew up, not more than five hundred yards from me, but I saw no hunters.

Most of the migrating Ducks passed over during the morning of November 11. I saw only one flock (of about three hundred) fly over in the afternoon.

I have watched the migrating Ducks for several years and have never before seen more than a dozen or two flocks in the fall.

Very small numbers of Wild Geese were seen migrating southward, through Buchanan County in the fall of 1919. Whether or not this was due to the increased numbers of shooters this year, I do not know, but at any rate, the Geese appeared in very small numbers compared to other years.

The writer, wishing to gain some knowledge of just how many Geese really did migrate through this part of the country, kept a careful record of each and every flock and individual seen by him.

Only about 500 Geese, roughly estimating, out of a dozen or so flocks flying by day, were recorded by the writer. This does not include the flocks which flew over at night, but it serves to show what extensive shooting has done to the Canada Goose. Not so many years ago the Geese would fly south by the thousands in the fall. The writer worked out of doors all of the fall and had a good opportunity for watching the movements of the Geese.

The Geese recorded were seen at the following times:

The first flock of Geese, containing about 25, was seen on the afternoon of October 15. The second flock was noted on the afternoon of October 20, and contained about 100 birds. They were flying very low when seen, and in very irregular form, as if tired and searching for a landing-place. The next flock was seen quite early on the morning of October 25. There were about 100 in this flock. A fourth flock passed October 27, this also containing about 100 Geese. On the afternoon of October 31, a flock of only 5 was seen flying southward, aimlessly and without a leader; 16 more Geese were seen November 13. On November 7, two flocks, of about 35 each, were seen flying south, the flocks being only about 300 feet from each other; 9 more Geese were seen that day.

On the evening of November 15 a very large flock passed over, judging from the honking.

A flock of 35, which could not be positively identified, passed on November 23. That evening, at dusk many Geese could be heard, but they were not seen. On November 25, 5 Geese passed, going south, and this was the last flock seen in 1919.—FRED J. PIERCE, *Winthrop, Iowa.*

Purple Gallinule in Connecticut

Your readers may be interested to know that on April 16 I saw a fine specimen of the Florida Purple Gallinule. It is very rarely seen above the Mason and Dixon line, two specimens having been reported on Long Island, but so far as I can ascertain, *never* in New England.

I did not hunt the bird, but it appeared unexpectedly as I stood talking with a neighbor in a little-used country road, not far from a salt marsh. It ran along the ground, close to a high board fence, and passed us at a distance of 15 yards. I observed that it had a white bill, a small head, a small, long neck, and long legs. It was about the size of a half-grown chicken. The color of the body was a rich purple. The wings were bluish green, and in the bright sunlight the coloring had a gorgeous sheen.

After running past us it suddenly turned and ran across the road in front of us, as if to give us a perfect side view of its beauty. I moved quickly toward it in order to observe its mode of flight. It flew a few paces like a Rail, alighted, and ran, or *glided* into some bushes.

I was much impressed with the perfection of its muscular coördination. There was no waste of power, but a perfect adjustment of muscular force in *running*, while it was heavy and awkward in its *flight*.

The bird was new to me, but in view of its small head and neck, such a good provision for enabling it to thread its way through marsh grasses, its long legs, its short, feeble wings, I classified it as a marsh wader, and, from the mode of its flight, I thought it belonged to the Rail family. This proved to be the case. A perfect-colored picture of the bird can be found in 'Birds Which Hunt and Are Hunted,' by Neltje Blanchan.

I shall always carry a pleasant memory of the beautiful bird, and mark April 16 with a white stone.—CHARLES W. PACKARD, M.D., *Stratford, Conn.*

An Odd Note of the Blue Jay

This morning (Feb. 2, 1920) I heard a Blue Jay give a curious note—a harsh, rapid chatter or growl, as rapid as a Woodpecker's tattoo. The bird-note which it most closely resembled is the jarring chatter of a Catbird, but it had a duller, more wooden quality and suggested a mechanical sound rather than a bird's voice. The Blue Jay was alone in a small apple orchard and was visiting one tree after another, evidently feeding. Recalling, from the oddity of the note, that I had heard it some years ago, but not since, I looked up my records and found the following note:

"Apr. 6, 1913. This morning (6.45) fifteen to twenty Blue Jays were flying about, making a great disturbance. From the large number of birds and from their loud cries, I supposed that they were

pestering some Hawk or Owl, and when I heard from the vicinity of the screaming birds a low, guttural, growling note, repeated several times, I turned aside to find out whether the Jays had not run upon a rarity, but such was not the case.

"Ten of the birds were sitting in a bare tree. A few were mounting toward the top of the tree by stiff upward leaps; the others, well scattered high in the tree, sat quiet; most of the company were screaming. Every few seconds came the growling note, a sound which suggested a 'snoring' frog, the quick tapping of a Woodpecker, or the exhaust from a distant motorcycle—*g-r-r-r-r*. During the growl, and immediately after it, one or two birds, and perhaps more, moved up and down as if the branch on which they sat were swaying. There was none of the teetering motion of a Spotted Sandpiper; the whole bird rose and sank as a man would move up and down on his tiptoes. Soon the birds flew off in a screaming company and were joined by other Jays."

In addition to the interest which attaches to the strange behavior of these birds, it is worth noticing that the *actions* of the birds while uttering a note which is apparently seldom employed, and which, one would suppose, from its distinctive character would have a special significance, were, in the two instances cited, entirely different. In one case a solitary bird gave the call as a soliloquy; in the other case the call was used at a different time of year and on an occasion when the gregarious tendency was unusually manifest.—WINSOR M. TYLER, M.D., *Lexington, Mass.*

Blue Jay vs. Mouse

On Feb. 2, 1918, the scream of a Blue Jay rang out through the air, and, looking toward the barn, I saw the bird swooping down to the ground after something. I was interested at once, and at first I could not see what was running across the snow; when it reached the barn, where it was clear, I saw that it was a mouse.

The Blue Jay boldly followed it right into the barn, dodging in and out of the wagons and pecking at the mouse at every chance it got. About this time the Blue Jay's mate joined the chase, but she was just a little too late. The mouse, nearly beaten, hopped into a friendly hole and escaped. For a little while the pair watched the hole, and then gave it up.—G. GILL, *Sea Cliff, N. Y.*

Mouse and Blue Jay

At 10 o'clock on the morning of Jan. 30, 1920, I was seated near a window when I caught sight of a little gray mouse running about on the short grass outside. He soon began nibbling a sweet-gum ball (which contains seed). In a few seconds he ran to another and began nibbling that, but his movements had revealed him to a Blue Jay in the tree above. Down flew Mr. Jay and gave mousie a quick stab with his bill. Mousie jumped under a fallen sweet gum leaf. On came the Jay, brushing aside the leaf; quickly the mouse sought another, and another, each time coming nearer my office, evidently to take refuge under it. The Jay followed, but when I moved nearer the window in order to watch the chase, Mr. Blue Jay was frightened and flew back to his tree-top, while the mouse, sensing a new danger, crouched immovable. A Cardinal Grosbeak now joined the Jay. and both flew down at the mouse. The scene would have made a wonderful painting—the tiny gray ball of fur among the russet leaves and burs, the vivid scarlet Cardinal and handsome blue and black Jay, both alert and with crests raised. Poor little mousie! I rapped on the pane, away flew the fighters, and their would-be victim vanished.—LIZZIE N. DOUGLAS, *Barns, W. Feliciana Co., La.*

Twenty-one Warblers in a Day

In looking over my back copies of BIRD-LORE I noticed in Vol. XIX, No. 4, the article by S. A. Eliot, of Pittsfield, Mass., entitled 'Seventeen Warblers in a Single Tree.' During the spring migration of 1919 the writer had a similar experience which may be of interest to BIRD-LORE'S readers.

Ever since the Warbler wave in the spring of 1917, when one million Warblers were estimated to be feeding at the Brighton Sewage Disposal Plant on May 23, I have endeavored to visit the plant at least once during the spring and fall migrations.

The plant is on an open plot of ground near Irondequoit Bay. All around it is a most wonderful woods, the underbrush being so thick it is hard to make one's way through. It is a birds' paradise! Then, too, the bay, with its vast marshes, provides a wonderful place for swamp-birds.

On May 24, I arrived at the plant about 3.30 in the afternoon, and, seeing no birds on the gravel beds, I decided to look in the bordering trees and underbrush, with the hope of finding some there. I had not gone far before I discovered four beautiful little Northern Parula Warblers feeding in the low underbrush. A single Nashville was in a tree above me, singing, and Yellow Warblers were very numerous. Seeing a flash of color in a nearby hemlock tree, I focused my glass on the spot and found a male Pine Warbler gleaning insects from the branches. Then a Blackburnian came into the line of vision. Lowering my glass I walked cautiously forward, and as I got nearer, Warblers seemed to appear all over the tree. I was now so close the glass was not necessary. A Redstart and a Black-poll were in the topmost part of the tree. Further down were Chestnut-sided, Bay-breasted, and Magnolia Warblers and a female Cape May. My eyes were suddenly attracted to a rail of the fence surrounding the plant, and there was a splendid male Cerulean Warbler, the first I had ever seen! In a radius of fifty yards I found two Tennessees and also Hooded, Canadian, and Mourning Warblers. And I heard an Oven-bird, a Northern Water-thrush, and two Maryland Yellow-throats singing in the vicinity. These, with an Orange-crowned and a Black-throated Blue seen in the morning, made a total of twenty-one Warblers for the day, nineteen of which were seen in a hundred-yard circle. Many other species were seen here, and altogether they made a total of sixty-one different varieties seen in what the writer thinks to be the finest spot for birds around this city.—RICHARD M. CHASE, *Rochester, N. Y.*

What Killed Cock Robin?

One morning late in June, an excitement among the Robins hurried me to the porch, to see a young one fluttering helplessly over the lawn closely followed by a cat, while the parents dashed about wildly overhead, filling the air with their frantic appeals for aid. I rescued the nestling and put it in a cage which I left on the porch, so that the old birds might keep in touch with it and take it in charge when it had recovered sufficiently from fright and exhaustion to be released. If subjected to fright during the early stages of flying, young birds become semi-paralyzed, but after a few hours of rest and quiet are then quite able to fly to a place of safety.

I supposed the parents of my protégé would remain nearby during its temporary imprisonment, but they, apparently, took no further interest in its fate, and it soon cried insistently for food. I have an aversion for a caged bird and did not want the care of a Robin. Inspection showed it to be very young, only half-feathered, still wobbly on its legs, and unable to feed unless steadied in the hand. It had evidently fallen from the nest and was entirely incapable of self-support. There was no alternative but adoption for at least a short time.

It struggled wildly when I first took it into my hand to feed it, but relaxed contentedly as I put a morsel of softened bread into the gaping mouth, and ever after enjoyed being so held while feeding. It then and there claimed me as a foster-mother, and I thereupon christened it 'Bob.' While Bob suffered attentions from other members of the family, he made it plainly evident that I was the sun and soul of his existence. Shrieks of joy greeted my appearance, and, running forward to the bars of his cage, he awaited me with quivering wings and eyes sparkling with impatience. He became very tame, following me about on foot on my visits in the

neighborhood, or perfecting himself in the art of pulling worms while I occupied a chair on the lawn, interrupting his labors to fly up on my lap when he desired food from my store.

A month passed and Bob had developed into a handsome, vigorous Robin. He had renounced all kinship with the feathered tribe and showed himself more than satisfied with his promotion to membership in the human family. I was beginning to be concerned in that he showed no inclination to take up his normal life, unconscious that eyes unseen were viewing his disloyalty with disfavor, and that vengeance, incredible for subtlety and intelligence, was awaiting its opportunity.

The first time I gave Bob his liberty on the lawn, while I mounted guard against cats and other things hostile, a pair of Robins, one carrying a worm, alighted near him. Supposing them to be the long-lost parents, I watched proceedings with much interest. One held the worm enticingly before Bob and then, to my consternation, the other, feathers bristling with rage, ran toward him with evil intentions so evident that I ran to his rescue and the intruders flew off.

After this, for a while, I never left Bob alone on the lawn, but one day, in response to a hurried summons, I went into the house, forgetting him. As I returned, a Robin with a worm in its beak was just alighting beside him, but, seeing me, beat a hasty retreat.

A week later I again left Bob for a moment. As I came back a Robin was putting a worm into his wide-open mouth. The stranger flew off as I approached, and Bob, instead of running to meet me as usual, sat quietly on the grass. So quiet, so inanimate, that I took him up to see why. I examined him closely, but could find no injury. I put him down on the grass and watched him. He sat perfectly quiet for a few minutes, then slowly turned his head backwards and tucked it under his wing as if going to sleep. I tried to arouse him by offering food. He responded with a feeble *peep* but was unable to swallow. The next morning Bob was lifeless on the floor of his cage. Who can solve the mystery of his death?—LILIAN REA MCCORMICK, *Danville, Pa.*

Mrs. Wren Puts Her Family to Bed in a Robin's Nest

In a pine tree, the branches of which reach to my north porch, just below the eaves, a pair of Robins build their nest nearly every year. The old nest usually is blown away during the winter's fierce gales. The evening of Aug. 28, 1919, was quite cold. While I sat on the porch, just before dark, I heard a Wren calling so loudly and long that I remained to see what the ado was all about, for, as I looked the yard over, I could see neither cat nor anything else to disturb her. After she had flown all around the yard, still calling, I noticed her in the pine tree near the porch. To my surprise, she hopped onto the edge of the deserted Robin's nest, jumping into it and out again, repeating this several times, still calling. Then from out of the branches of the tree came five young Wrens, and they all nestled down into the nest. I could hear them twittering for a few moments (much as small chickens do when they go to bed at night under the wings of the old mother hen), then quietness reigned.

The next night I watched for them again, and the same process was repeated at twilight, and this continued every evening for a week, with more or less calling as the occasion demanded. One evening the little family gave her more trouble in finding them than usual. Darkness set in, and she was still calling. It was too dark to count them that night, but I heard them twitter. The House Wren usually arrives about May 4, and this was the first time that I have ever seen them here later than August 15.—MRS. J. ELLSWORTH JACKSON, *Rochester, Wis.*

Bluebirds vs. Wrens

In the summer of 1918, while we were in camp in northeastern Pennsylvania, late in August, I noticed numerous Bluebirds about and wondered where they had nested.

There were three farmhouses in sight of camp. One day as we were driving past the farmhouse just back of our camp, I noticed a bird-box on a tall, slender pole just back of the house and remarked that there was probably one of the homes of the Bluebirds. A little farther on we overtook the owner of the place, in blue overalls, with a tin milk-pail on his arm. I stopped the horse and told him I noticed his bird-house as I passed and asked whether he had had Bluebirds for tenants. His face lighted up and he said, "Bluebirds? I should say so!" He then told me that he had built eight boxes and the Bluebirds had occupied six of them. That very morning they had paid a visit to the boxes and he had counted thirty-two in the flock. He said after the Bluebirds had been there some time a Wren tried to take possession of one of the two unoccupied boxes, but he saw right away that the Bluebirds did not like the Wren so he drove it off. I told him why the Bluebirds do not care for the Wrens.

I wish to add that the Wren this last summer again interfered with the second nesting of my Bluebirds. The first egg was laid one morning between 9 and 10 o'clock, and before 11 o'clock the Wren had visited the box and broken the egg. I noticed in the report from the Connecticut Birdcraft Sanctuary in BIRD-LORE that thirteen pairs of Wrens and only *two* pairs of Bluebirds nested there. It is my belief that the Wrens are very destructive to Bluebirds' eggs at the second nesting.—MRS. ARTHUR F. GARDNER, *Troy, N. Y.*

A Confusion of Instincts

Last summer a pair of Robins nested three times about the house and built a new nest each time. As soon as one brood of young Robins was safely down from the nest and hidden away in the grape-arbor, the mother Robin would begin to carry material for a new nest.

One day, just as she started for the nest with her mouth full of string, one of the baby birds called for food. She ran across the lawn to him and stuffed the string into his mouth. He held it for a minute then spit it out. She picked it up and put it back into his mouth. When he spit it out again, she picked it up and carried it off to the nest. A day or two after this I saw her do the same with a bill full of dried grass. The baby Robins soon learned to look to the father Robin for their food.—MRS. ARTHUR F. GARDNER, *Troy, N. Y.*

A Clever Robin

So many interesting stories about Robins are written for BIRD-LORE that I should like to offer an additional incident.

We were riding in the country one rainy morning, when, close beside the road, we spied a Robin tugging at a great angle-worm half out of the ground, and we stopped to watch the proceedings. Sir Robin was having a struggle indeed. Finally he landed his catch, which proved to be nearly as long as himself, and stood over it for a moment, too glad of the opportunity to rest to be afraid of our presence. Presently he seized the worm by one end and flew off with several inches of it trailing from his yellow bill.

This was the worm's opportunity, and it made the most of it. Around Sir Robin's leg it twined and squirmed and clung, and promptly to the ground came the former to see what the trouble was all about. Dropping the captive end of his victim, he proceeded to free himself from the snaky coils; then, as if determined that such a thing should not occur again, he firmly bit that worm in two, picked up both pieces—nearer the center this time—and flew off in triumph with a morning meal for his little ones.—MARY T. BARRETT, *Portland, Maine.*

Wrens Drive Away English Sparrows

A tin can from an oil-stove was hung from a hook and reserved for Bluebirds. No Bluebirds came but a pair of English Sparrows inspected it carefully one entire season before they decided it was safe, then proceeded to occupy it for two years.

One April day when a brood of Sparrows

had just left the nest, a pair of Wrens appeared. They examined the premises very thoroughly and concluded to rent it, after which they proceeded to clean it out.

A perfect shower of feathers came down, mixed with straws and grasses, and in the midst of the housecleaning the former tenants put in their appearance. A lively scrap ensued in which the Wrens come off victors, not once but several times, one or the other Wren being always on guard until finally the little Wrens were left in peace.

Several weeks later four babies were perched on a branch and fed generously within two feet of where I was hidden behind a curtain.—NETTIE RANDALL, *Canton, Pa.*

THE SEASON

XIX. February 15 to April 15, 1920

BOSTON REGION.—Spring came slowly after a long, severe winter. Traces of the winter's snow, an accumulation of 74 inches, remained on the ground well into April, and during the prolonged thaw in March the presence of the melting snow made the springlike weather seem wintry. During this period there were fewer birds here in Lexington than there had been all winter. In mid-February an icestorm had beaten off the white ash seeds and the birch catkins, evidently forcing the Pine Grosbeaks and Redpolls to move off in search of food. The commonest bird at this time was the Robin. These birds appeared in good-sized flocks on February 25—winter Robins, big, wild birds, undaunted by snow.

As would be expected during so long drawn out and gradual a change from winter to spring, the first group of migrant birds—those that follow the snow-line closely and often arrive before the ground is half exposed—straggled along in such small numbers at first that no definite date could be set for their arrival. On March 23, the day when the Robins began to sing, there was a pronounced migration of Bluebirds, Song Sparrows, and Blackbirds, but small numbers of individuals representing these species had been reported several days earlier. These birds were closely followed by a flight of Fox Sparrows and Juncos, and a few Phœbes, the latter bird arriving on the day when flying insects first made their appearance, although there was much snow on the ground.

The next group of migrants, which comprises the Vesper, Field, and Swamp Sparrows and the Pine Warbler—birds which do not appear in New England until spring is well established—was delayed by cold weather in the first half of April, when such a chilling wind blew from the northern snowfields that the Robins discontinued their evening chorus. Notwithstanding the absence of this group as a whole, a few Vesper Sparrows and a Pine Warbler were noted on April 11. The Chipping Sparrow, a bird whose arrival brings assurance that all wintry weather is past, has not appeared, although overdue.

Mrs. Edmund Bridge reports the presence at West Medford of a bird of extreme rarity in Massachusetts—two Bohemian Waxwings, which were associated with a flock of Cedarbirds for a few days in the latter part of February.—WINSOR M. TYLER, M.D., *Lexington, Mass.*

NEW YORK REGION.—The last half of February saw an increase in Redpolls, now in considerable flocks, but they soon disappeared again. There seems also to have been a flight of Long-eared Owls at this time, noted at Amityville, Douglaston, Staten Island, Englewood, and the vicinity of Plainfield. February 23 a number of Evening Grosbeaks were found in a patch of red cedar woods at Amityville, Long Island, feeding on cedar berries. With them were many Goldfinches, some Red Crossbills, and a few Purple Finches.

The Evening Grosbeak has been reported repeatedly from Douglaston, Long Island (G. C. Fisher), last seen April 9 and likely still around. The attraction here seems to be the fruit of the hackberry.

More than in the New Jersey direction, late February and the very first of March usually find an increase of scattered Robins on Long Island. We have been at times in doubt as to whether these birds are arrivals from the South or have been driven in from southern New England where, at that date, the Robin is generally present in considerable flocks. This year these early Robins were less than usually noticeable on the Island, an indication that they are southern birds, as late winter birds from the North of all species were more than usually represented.

The spring was late in putting in an appearance with its first migrants from the South. The entire absence, during the very end of winter, of Song Sparrows at Garden City, Long Island, made it possible to determine when the first individuals returned, March 12. Fox Sparrow and Grackle were present here for the first time on March 14, the Grackles being about two weeks later than their usual arrival—the end of February. The first unquestioned increase in Meadowlarks came on the 21st and they became common on the 24th. The Flicker put in an appearance on the 28th, and Chipping Sparrows only on April 7 this year, although they had been reported from the New York Region a few days previous. Up the Hudson, vicinity of Rhinebeck and Poughkeepsie, data compiled by M. S. Crosby shows the earliest arrivals to have been delayed: Fox Sparrow, March 14; Grackle and Song Sparrow, March 15; Robin, March 23. The next lot of birds were, however, as early as one could expect them: Phœbe, March 23; Flicker and Cowbird, March 26; Chipping Sparrow and Tree Swallow, April 3; Barn Swallow, April 11; Louisiana Waterthrush, April 12; etc.

Reports from New Jersey indicate retarded migration, though by April 1 spring arrivals were about 'on time'; and a better showing than usual of the less-abundant Ducks. At Englewood, Rough-legged Hawk, March 21, Golden-eye Duck and Tree Sparrow, April 11, are late dates obtained by L. Griscom, who also reports the Hooded Merganser, Baldpate, Blue-winged Teal, and Ruddy Duck from there. C. H. Rogers and W. DeW. Miller found the Baldpate, Green-winged Teal, and Pintail at South River, April 4.

A Blue-gray Gnatcatcher was noted in Prospect Park on April 7 by R. Friedmann, and the record corroborated by a number of Brooklyn observers who found it there again April 12 and 14. The occurrence of this species north of its regular range at so early a date is doubtless correlated with the fact that, like other southern species, its regular spring migration comes early.—J. T. Nichols, *New York City.*

Philadelphia Region.—With the exception of a number of springlike days the first week in March, Jack Frost held this region in his grip until about March 15. The bulk of the early migrants arrived from ten days to two weeks late, the earlier adventurers meeting with wintry conditions. Almost immediately after the melting of the ice in the Delaware River—about mid-March—numbers of Mergansers, Scaups, Black Ducks, and Pintails appeared, and rapidly increased until the peak of their abundance was reached about April 10. On this date about eight hundred Ducks were observed on the river, a mixed flock of the species mentioned above. An interesting feature of late February was an apparent influx of Evening Grosbeaks, these birds being reported more common at this time than any other portion of the winter. Miss Anna P. Deeter writes that she and Miss Florence Hergesheimer saw a flock of twelve birds of this species near Reading, Pa., on February 29, two of which were 'full-plumaged males.' In the same letter she mentions seeing a Hermit Thrush (March 8) at Reading which had doubtless wintered there.

A Ruffed Grouse seen at New Lisbon, N. J., March 21, is interesting, as this bird at the present time is none too common in

southern New Jersey. The same day a huge flight of Red-winged Blackbirds was seen passing northward, flock after flock, the totals of which must have numbered thousands.

Early spring migrants were noted as follows: Bluebird, February 23; Fox Sparrow and Flicker, March 7; Vesper Sparrow, March 20; Robin, March 21; Purple Grackle, March 13; Red-winged Blackbird, March 21; Killdeer, March 28; Savannah Sparrow, March 30; Phœbe, March 27; Osprey, April 11; Bonaparte's Gull, April 11.—JULIAN K. POTTER, *Camden, N. J.*

WASHINGTON REGION.—The long, cold winter is but slowly giving place to spring in the region about Washington. Vegetation is at least two weeks behind its ordinary development at this time of the year. Notwithstanding these conditions, bird-life during February and March showed its customary spring increase. This, of course, means the permanent residents and earliest migrants, which are now (March 31) in their usual numbers and in full song. Only two of the spring migrants that are due before April 1, the Purple Martin and the Pine Warbler, have failed to put in their appearance. On the other hand, some species have arrived earlier than usual: the Woodcock, which came on February 15, but which was not due until March 8; the Chipping Sparrow, seen on March 21 (average date of spring appearance, March 26); and the Tree Swallow, noted on March 28 (average spring arrival, April 11).

The Ring-billed Gull has been frequently noted on the river, usually in flocks in company with the Herring Gulls, and appears to be much more numerous than is ordinarily the case. The Starling continues to be common, and apparently has become thoroughly established, both summer and winter, in the vicinity of Washington.

Although most birds have been present in about normal numbers, the scarcity of the Golden-crowned Kinglet has been noticeable, a fact remarked by nearly all observers.

Without doubt, the outstanding feature of ornithological interest during the past two months has been the astonishing numbers of Ducks that have frequented the Potomac River. These birds seem to be present in even greater numbers than during the corresponding period of 1919, and is an encouraging sign to both ornithologists and sportsmen of the beneficial effects of game-protection efforts during the past few years. The species most abundant have been the Greater Scaup, Lesser Scaup, Black Duck, and Golden-eye. Several thousand Scaups and Black Ducks have frequented the river as far up as the city of Washington, feeding out in the broader reaches of the river but spending the night nearer to the shore in the more sheltered portions, sometimes close to the city, off the lower end of Potomac Park. Other species noted more or less frequently are the Ring-necked Duck, Redhead, American Merganser, and Hooded Merganser. Three Pintails were seen by Francis Harper on February 20 on the Potomac River near Washington, between Alexander Island and Potomac Park; and a single Canvasback was observed by Miss M. T. Cooke on March 28 near Millers, Va. Flocks of Canada Geese in migration have also been larger and more numerous than for several years past, at least so far as may be judged by reports from local observers. Furthermore, the Whistling Swan has continued to winter in the Potomac River some twenty to forty miles below Washington, as has been the case for several years past.—HARRY C. OBERHOLSER, *Biological Survey, Washington, D. C.*

MINNEAPOLIS (MINNESOTA) REGION.—As one correspondent aptly expressed it "The spring is coming with slow, reluctant steps" here as elsewhere after the unusually 'snowbound winter' that has prevailed throughout the whole northern United States the past season. Minnesota has experienced an exceptionally protracted and hard winter, followed by a spring which, thus far, has been characterized by brief spells of mild weather interrupted by constantly recurring severe

snowstorms and freezing temperatures. The early arrivals among the birds, and especially the early ground-nesting species, as, for example, the Horned Lark, must have had a hard struggle and met with many disasters.

After a few bitter cold days, with temperatures far below zero, in the third week of February, there came a spell of milder weather and disappearing snows that seemed to promise an early spring; but on March 3 occurred the terrible blizzard that swept the whole Middle West, accompanied by the greatest single snowfall of the whole winter—about a level foot. Several subzero days followed, terminating on March 9 in a mild, springlike day with a maximum of 46 degrees above, "the warmest day here since last November" (Weather Bureau). But on the 15th came another blizzard, much snow, and a hard freeze; a brief respite and then nine inches of snow on the night of the 18th. The first really warm days followed, with occasional noon temperatures of 60 degrees, a heavy, warm rain on the 23d which rotted the ice in lakes and streams (the ice went out of the Mississippi River above the falls on the 24th), and the month closed with an almost July-like day with temperature 72 degrees—a most unusual record. A few brief hours of this and then April came in like the proverbial lion with snow, high north winds, and freezing temperatures,—plus 13 degrees on the 2d,—and this sort of weather has continued, with only slight intermissions ever since. The smaller and medium-sized lakes hereabout were clear of ice on April 15, due chiefly to surface drainage and the warm rain on March 23, but the larger lakes were open only around the shores and in the smaller bays. Lake-ice formed during the past winter to the astonishing thickness of thirty-eight inches!

It can readily be imagined what the effects of such a spring must have been on the early migrant birds. The warm spells lured them onward, and then suddenly they were confronted with all the rigors and privations of midwinter, to avoid which they had retreated to the Southland the previous fall. The rather brief duration of the cold spells has been the only mitigating circumstance.

The following bird-notes are all for the vicinity of Minneapolis, and have been largely taken from reports kindly contributed to the Museum by several local observers.

The first migrant seen was a single Crow, on March 9, followed on the 16th by a flock of 20 which came up the Mississippi gorge battling against a fierce, bitter cold wind that was blowing at the time. Two Bluebirds arrived on the 15th (Mrs. McIntire) and a 'flock' on the 19th (Chapman), encountering heavy snow and freezing temperatures. Robins appeared on the 18th; Meadowlarks on the 20th (Miss Edgar); Red-winged Blackbirds and Song Sparrows on the 21st; Golden-crowned Kinglets (Thayer), a Red-tailed Hawk, and a Red-headed Woodpecker (Mrs. McIntire) on the 22d; Fox Sparrows (Green) on the 23d, at which time Tree Sparrows and Juncos were migrating in large numbers. On the 25th, Purple Finches were numerous and in full song, and Horned Larks, a Killdeer, a Flicker, Marsh Hawks, and a flock of 200 Bohemian Waxwings were seen in the vicinity of the city by Mrs. W. E. Albee. Phœbes (Zeleny), a Migrant Shrike, a Kingfisher, and a Broad-winged Hawk (Mrs. Albee) and many Rusty Blackbirds (Mrs. McIntire) were reported on the 28th. The first Herring Gulls were seen in the Mississippi gorge on the 29th (McIntire); an early Sapsucker on the 30th (Caroline Crosby) and the first Loon on April 8 (Hussy). Martins were reported from the southern part of the state (Harry Boogan, Madelia, Watonwan County) on the exceptionally early date of March 31, and these so-called 'scouting birds' were seen at Minneapolis about a week later. The first Hermit Thrushes appeared on April 14 (Commons).

Mid-April arrived with all vegetation much less advanced than at the same time last year. The catkins on the hazel, the poplar, and the willow were developed only in favored places. The pasque flower, the hepatica, and the bloodroot had been

in bloom for only a few days, and the dicentra or Dutchman's breeches was but just appearing. There was but little evidence of "the tender grays of the woods being brightened by the soft reds, yellows, and greens" that make the springtime woodlands the delight of those having the artistic temperament.

The Bohemian Waxwings, which have been so well represented throughout the state during the past winter, are still here. A flock of 25 to 30 established themselves at the summer home of Mr. and Mrs. F. W. Commons at Lake Minnetonka during the first week of April and exhibited a feeding trait that was both curious and interesting. When the sap began to run in the many sugar maple trees about the house, it oozed from numerous cracks and abrasions in the bark (caused by freezing?) and ran from the ends of broken twigs, forming in the latter places little icicles. The Waxwings fancied this sap and fed eagerly from the little pools on the trunks and larger branches of the trees. To secure the sap dripping from the ends of the twigs, the birds fluttered in mid-air, hummingbird-fashion, and drank the rapidly forming drops from the tips of the pendant icicles! Between times they hawked for insects from the topmost branches of the taller trees. Thus the Waxwing and the Sapsucker, under favoring conditions, seem possessed of similar tastes, though they go about gratifying their appetites in very different ways.

The great thickness of the ice on the lakes and the heavy blanket of snow during the winter just passed developed conditions that caused the destruction of vast numbers of fish in the shallower lakes of Minnesota. Fish of all kinds and sizes were thus 'smothered,' and even the hibernating frogs and turtles succumbed. With the melting of the ice, the dead and decaying fish were thrown up on the shores in great windrows. Herring and Ring-billed Gulls arriving about this time assembled at such places in large flocks and have been busy ever since devouring the putrefying and malodorous piles of fish that were a nuisance and menace to the nearby settlers. At one such place, visited by the writer on April 14, Herring Gulls predominated, with only a few Ring-bills present, though elsewhere the latter species was reported in large numbers. German carp, two to two and a half feet long and weighing twelve to fifteen pounds, were too big and heavy for the Gulls to manage, the eyes, apparently, being the only vulnerable parts. But the sunfish, black bass, crappies, perch, bull-pouts, etc., were being disposed of rapidly. The great value of Gulls as scavengers is well exemplified under such conditions.—THOMAS S. ROBERTS, *Zoölogical Museum, University of Minnesota, Minneapolis.*

KANSAS CITY REGION.—Late winter notes from the Eton Bend of the Missouri River and the Courtney region, furnished by William Andrews, indicate that the usual early movement of Mallards, Pintails, Mergansers, Red-breasted Mergansers, and Canada and Snow Geese gave promise this year of exceeding in numbers the spring flights of several years past. This careful observer also noted a pair of Loons feeding about the edge of an ice-field near his home, and, on February 14, saw 39 Snow Geese and 17 Canada Geese crowded out of an eddy in the Missouri River by a rush of pack ice. A flock of over 200 Rusty Blackbirds was observed by Mr. Andrews in his neighborhood during this season, and an unusual northward movement of thousands of Juncos was noted during the last week of February. A few miles below this region another trustworthy observer states that a flock of about 150 Blue Geese, accompanied by a lone Snow Goose, remained on an inaccessible bar in the Missouri River from February 22 to April 4, when their place was taken by thousands of Mallards and Scaup.

A letter from Johnson Neff, Marionville, Mo., mentions a large list of winter birds seen, giving 34 species as the average number noted in a day afield. Mr. Neff's careful notes conclude with the cheerful statement that Ducks and Geese are more abundant than for several years. He states further that a Sandhill Crane was killed

near his town in late January, and deplores the fact that there are local hunters who are not in strict sympathy with the Federal Bird Law.

Sidney Hyde writes that a movement of Bohemian Waxwings had been observed in the Topeka, Kans., region, where this unusual species was under observation from late in January until March 25. He gives an early arrival date for the Pectoral Sandpiper, March 17, and states that on April 7 a flock of 16 Cranes, probably Sandhills, was seen and heard.

An event of importance in the Kansas City region was the adding of the Skua to our local list. A lone individual of this wandering race was taken on the Missouri River, near Sibley, on April 3, by a boatman who, fortunately, saved the head, wings, and feet. The writer knows of no previous local record for this bird authenticated by a specimen, though William Andrews says that he is sure he has met the species twice in his many years on the river.

On March 21, Meadowlarks and Chipping Sparrows were first noted on their breeding-stands in full song, and Purple Martins were present in numbers on that date a week ahead of their normal time of arrival. By April 2, many of the commoner species were carrying nesting material. Fruit trees, such as plum and peach, were in bloom, and lilac and other early shrubs were out far enough to show as green masses, when all hope of an early and rapidly advancing spring was blasted by the arrival of a raging blizzard. Snowdrifts covered everything and a howling north wind, filled with snow, caused all bird-activities to come to a standstill. Had this unseasonable condition prevailed longer than twenty-four hours, great damage would have resulted to bird-life, but, fortunately, the storm ended as suddenly as it began, and by noon of the 5th Robins were pulling worms in every green patch rapidly appearing through the mantle of snow.

Pelicans were seen passing over on April 5, and several Harris's Sparrows and Purple Finches were noted in the southern residence districts—birds that are but seldom seen within the city. Local observers have been glad during the past two weeks to find that Harris's Sparrow has returned this spring in its old-time abundance. For some unknown reason this species has been rare in this region during the last three migration seasons. On April 11, a flock of about 75 Pipits were under observation for an hour, this being the first time this species has been met with here in several years. On this date 71 species were recorded.—Harry Harris, *Kansas City, Mo.*

Denver Region.—The writer has often wondered how long it takes our returning birds to penetrate into the denser parts of Denver. Robins winter in the neighborhood of Denver, but are seen only infrequently during that season within the well-built-up parts of the city. When the advance-guard returns in February, its members are at once pretty well distributed all over the city. It is quite otherwise with the Meadowlarks; some of them also winter near Denver; the species becomes common in the outskirts shortly after March 15, but seldom gets into the neighborhood of my home until the first week in April. This year it was April 1 before a Meadowlark was heard in my neighborhood. This slower penetration of the well-built-up districts by the Meadowlark may be due to its being more terrestrial in its habits than the Robin. The writer has wished all winter that his fellow bird-lovers of the East could have had the extended company of Bohemian Waxwings which was his. This beautiful bird has been in and about Denver all the winter, sometimes appearing in great flocks. One of my friends recently said that they reminded him of Plumed Quail when they were on the ground, and the writer thinks that it is not an overdrawn comparison. A large flock of these Waxwings was in my yard on March 10, a bright, warm day, and to my surprise several of the birds were seen on the topmost twigs of a tree, whence they made excursions into the air after insects, precisely as do Flycatchers. This habit is, of course, common to many other

non-Flycatcher species, but it never before came to my notice with the Bohemian Waxwing. This species was last seen here on March 11, when there occurred a slight snowfall, but not enough of a storm to dampen the ardor, in any way, of many singing Robins. A heavier snowstorm, with low temperatures on April 10 and 11, drove a number of species well into the heart of the city. A Tree Sparrow was caught in my Sparrow trap on the first day of the storm, banded, and liberated. It returned to the trap again the next day, was again given its freedom, and has not been seen since.

There seems to me evidence arising in the immediate vicinity of Denver of the beneficial effects of the Federal Migratory Act; more Ducks have been seen latterly by the writer on small lakes in this neighborhood than in many years past. On April 9, a warm, cloudless day, the following species were noticed in a small lake immediately south of Denver: Redheads, Canvasbacks, Mallards, Pintails, Lesser Scaups, Shovellers, and Green-winged Teal, a similar assemblage not having come under my notice in a long time. On the same day, a nest with four eggs of the Long-eared Owl was found close to the city limits, a date fairly early for this Owl to nest. On the same afternoon, a large flock of Cassin's Purple Finches was seen. The writer was then impressed anew by the ease with which one can mistake this species for the House Finch, if one judge by appearances alone, while no one could make a mistake in identifying the two species if their songs be compared. The song of the Cassin's Finch is quite unlike that of the House Finch. The date on which this flock of Cassin's Finch was seen, is, in my experience, exceptionally late for this species for this vicinity. Say's Phœbe was first seen on the afternoon of April 9. The next and the following two days were cold and snowy, a combination which seems to cast doubt on birds showing foreknowledge of bad weather and storms.

Mrs. L. K. Robinson tells me that she saw a very large flock of Evening Grosbeaks in one of our parks, the date being February 18; all had disappeared on the next day except six, and these left that afternoon. The writer did not have the pleasure of watching this flock of beautiful birds. One of my friends who has a ranch a few miles south of Denver, reports that a Bald Eagle has lingered about his place for several weeks. This bird is a rare visitor anywhere in Colorado. The Junco group is a very puzzling one in field identification, and the writer highly recommends Sparrow-traps as offering a great help in their identification. On April 1, two species and a subspecies were found in the Sparrow-trap, that is to say, the Pink-sided, the Montana, and the Shufeldt's Juncos. They were all promptly banded and given their freedom. Certainly there is no way known to the writer which gives one such a satisfactory chance to study a live bird as does this, and the pleasure is enhanced by the knowledge that the delicate little creature is done no harm.

The writer is greatly interested in the oft-seen pair of Clark's Crows which have been mentioned in previous reports. He is wondering when this pair will 'pull out for the hills' because the pair was seen in Denver as late as March 25. On this latter date the two birds were blacker than ever, even the white markings being very dim. Certainly a city's smoke is 'powerful soilful.' It appears to the writer that there have been more Bluebirds about the region than usual, and it is most earnestly hoped that this is not merely an impression, but a happy fact.—W. H. Bergtold, *Denver, Colo.*

San Francisco Region.—Spring bird records began with the finding of the nest of an Allen Hummingbird on February 13. The nest, though incomplete, contained one egg, which with its mate hatched on March 15, and the two midgets flew off into the wide world on March 25—a chilly, rainy day. The House Wren won second place in the list of spring migrants, three being seen together on March 5. The two males were bursting with song, and I suppose must have settled the question as to which one was superfluous in that par-

ticular locality, for a week later the pair were evidently building. On March 6 the trill of the Lutescent Warbler was heard in the cañon, and on March 20 the brilliant plumage of the Pileolated Warbler betrayed his presence in the willows along Strawberry Creek.

The last five days in March were spent with the Water Ouzels in the Santa Cruz Mountains. A pair was found building in the same water-washed groove in a boulder in the middle of the river where, in the late summer last year, I had pried away its mossy nest. The male was a faithful guard, giving the alarm whenever I approached the water, so that I found it more profitable to watch the process through field-glasses from the top of the bluff above. The cheery Wren-like song contained two clear whistling notes of Thrush quality.

During the five days in the mountains, the return of the Warbling Vireo and Western Flycatcher was noted, and a flock of a dozen or more Violet-Green Swallows was seen several times gathering insects over the river. One sunny, warm day the Cliff Swallows also appeared and investigated the eaves of a large barn where they had built their mud houses last year. But a colder day put them to rout and they were not seen again.

Easter Sunday in the Bay region was a day which we call typical, no matter in what country we live. Nothing more beautiful has ever been described by poet or depicted by painter, and all the lovers of the outdoors, whether animals or men, seemed to be making the most of it. During the week that followed, migrating Gulls were heard several times as they formed their ranks for their long journey. The tiny Rufous Hummingbird stopped on his way to Alaska to sip the honey from California flowers.

The permanent residents have been busy with courtship or nest-building, the most prominent singers on the hillside being the Thrasher, Purple Finch, Vigors Wren, Wrentit, Nuttall Sparrow, and Titmouse. On March 1 the Thrasher anticipated the dawn by two and a half hours, singing a full-throated song in a drenching ain at half-past three in the morning.

Of the winter visitants, I have missed, since early in April the songs of the Intermediate Sparrows and Varied Thrushes. The latter had been present in the woods to the west of my house throughout the winter, and their weird, composite whistle had often been the first sound to be heard in the early morning. The note suggests the first note in the song of the Dwarf Hermit Thrush, and the repetition in a different key is also suggestive of the same relationship. I wonder if possibly there is a strain following these whistled notes which is inaudible to the human ear.

The most unusual record reported for the region was that of Evening Grosbeaks which came to the garden of Mrs. A. C. Schlesinger in Oakland to feed on maple seeds. They appeared on February 27 and have been seen occasionally since then, coming every few days and remaining for an hour or two at a time.—Amelia S. Allen, *Berkeley, Calif.*

Los Angeles Region.—The earliest spring migrant, a Rufous Hummingbird, was recorded at Hollywood on January 9. This species occurs quite regularly in late January, but the record above seems unusual. First record for the Allen Hummer was February 18. The first male Arizona Hooded Oriole appeared February 14, while the female was not seen until eight days later. The Bullock species, sometimes seen in late February, was not noted this spring until March 19.

Lutescent Warblers inaugurated the season for their family on February 25, a very early date. Their numbers increased rapidly. They were notably bright in plumage, and in full song soon after March 15, their plumage and song making them notably conspicuous as they fed upon the rose-infesting aphis and other tidbits that delight the avian palate. Other Warblers, later arrivals, were the Black-throated Gray, Golden Pileolated, Calaveras, MacGillivrays, and the California Yellow. The Warbling Vireo appeared March 11.

A Black-headed Grosbeak (not due in numbers until late March) announced his arrival on February 22; this date brought also Violet-green Swallows. In 1919 a very large flock of Violet-green Swallows estimated at above one thousand were stormbound at Echo Park Lake over March 13, 14, and 15, continuing their journey northward on the morning of the 16th as the weather cleared. Their departure, in a vast spiral as they rose to a great height, was watched by an Audubon Society member. This year a storm occurred on the 16th, and again the Swallows were there—but not in such numbers. Their spectacular departure was not observed this year, but on the 17th, a clear day, they were not seen. Barn and Cliff Swallows came early in March, their numbers rapidly increasing. March 15 brought the Western Wood Pewee, the Western and Traill Flycatchers, and two male Western Blue Grosbeaks.

Phainopeplas, reported occasionally throughout the winter, became numerous about the middle of February. Lawrence Goldfinches, not seen until the end of January, have been reported frequently since that date.

A very early record for the Texas Nighthawk was that of three birds observed in San Fernando Valley on February 16, while the appearance of the Russet-backed Thrush on April 4 was almost equally notable.

While the spring migration seems to be fairly under way, the winter residents and some uncommon winter visitants are still here. Audubon Warblers, abundant early in the winter, are now rare. The Townsend Warbler, apparently established as an occasional winter resident, is now fairly common, though the heavy flight usually comes in late April or early May. The Hermit Thrushes and Ruby-crowned Kinglets are, for the most part, gone from the gardens, but one or two may be seen on a day's walk in the hills or cañons. Gambel Sparrows and Golden-crowns are abundant and in full song. Juncos were seen April 1, as were large flocks of Western Robins and Cedar Waxwings. The Blue-Fronted Jay was noted into April. On March 3 Red-breasted Nuthatches were still in Echo Park, where they wintered.

On February 8, a very damp, gray day, eighteen Varied Thrushes were seen in Griffith Park, where they had wintered. March 8, another gray day, threatening rain, two were seen in a small cañon in the Oak Knoll district of Pasadena, where hundreds of Robins were gathered in the leafless sycamore trees, singing and bathing in the little stream. These Thrushes were still present in the Hollywood Hills, April 4. In the same trees with the Robins were about twelve Blue-fronted Jays and many California Woodpeckers, as well as two or three Flickers. In the more open region at the head of the cañon a Lewis Woodpecker first noted February 18, was still at home on the poles where he was seen by several parties during the intervening days. Cabanis Woodpecker, a common mountain bird, but exceedingly rare in the lowlands, was seen near Whittier March 11, the Red-naped Sapsucker March 17, and the Red-breasted Sapsucker in Echo Park February 9.

About seven Sierra Creepers that have been in Whittier all winter were reported still there March 25. Chickadees were still in the foothill regions the latter part of February. A large flock of Pine Siskins, observed March 3, had the yellow areas in the wings much enlarged and the color brightened to a brilliant greenish yellow. A small flock of Sier a Crossbills flew over, high above the treetops, as the observers studied the Siskins. This was the third time the Crossbills were seen and heard on the wing in Elysian Park, but they were never found in the trees there as they had been earlier in the season in other places.

Mountain and Western Bluebirds were very abundant in the broad, open valleys and plains outside the city in February and March.

March 13 ten Egrets were seen near San Pedro, and on the same day seventy-five Mountain Plover, a species formerly wintering abundantly here but now sadly rare, were noted in a plowed field, closely following a horse-drawn harrow.—L. E. Wyman, *Los Angeles, Calif.*

Book News and Reviews

Birds in Town and Village. By W. H. Hudson. E. P. Dutton, New York. 1920. 12mo, 323 pages, 8 colored plates.

Adventures Among Birds. By W. H. Hudson. E. P. Dutton, New York. 1920. 319 pages, 27 line cuts from Bewick.

'Birds in a Village,' Mr. Hudson's first book on British birds after removing from Argentina to England, was published in 1893. The larger part of it, revised or rewritten, appears in this volume with the addition of six essays on 'Birds in a Cornish Village.' The colored plates, by E. J. Detmold, are decorative and pleasing, but do not appear to be portraits from life, though that of the Nightingale should please both artists and ornithologists. Mr. Hudson's observations are of actual reference value, but the publishers fail to supply an index to make them available.

The second volume mentioned above is made up of a collection of contributions to various English magazines. The author apologizes for its somewhat misleading title and offers as a substitute 'The Adventures of a Soul, Sensitive or Not, among the Feathered Masterpieces of Creation,' but why 'feathered?' one may ask. Both books ring with their author's inherent love of birds, a love to which, fortunately, he can give adequate expression. It is the genuineness of this love, rather than any attempt at fine writing and the airing of high-flown sentiment which gives charm to his work. 'Adventures Among Birds,' we are glad to say, has an excellent index.—F. M. C.

The Ornithological Magazines

The Auk.—In the April number of *The Auk*, Dwight presents some results of painstaking study of plumage change in relation to age in Gulls, using the Bonaparte's and Herring Gulls as examples. He finds "that the smaller Gulls attain full adult plumage at their first postnuptial or annual molt, which is at the beginning of their *second* year; medium-sized Gulls, at the beginning of their *third;* and large Gulls at the beginning of their *fourth* year." This is the normal condition; there is a certain percentage of laggards whose age is difficult to determine and which confuse interpretation of specimens. The various species of Gulls are thus divided into three groups having, respectively, a two-year, three-year, and four-year plumage-cycle. The Bonaparte's, Laughing, and Kittiwake Gulls belong to the first group; the Ring-billed to the second group; the Herring, Western, Great Black-backed and Glaucous to the third. Dr. Dwight's paper is beautifully illustrated with half-tone reproductions of the wing and tail patterns of different ages of Bonaparte's and Herring Gulls.

Wetmore describes Lake Burford, New Mexico, and presents a first installment of habit-studies from that locality. Detailed descriptions of mating-displays of Grebes and Ducks are given. "Though a fair number of breeding individuals of various Ducks inhabit Lake Burford in summer, it seems, from observation, that in addition many drakes come there to molt and spend the summer after their duties of reproduction are completed," with the exception of the Ruddy Duck, "as the drake of that species, like the male Canada Goose, usually remains true to his spouse during incubation and the rearing of the young." Perhaps from late development of suitable feed in the lake, the breeding season was delayed there. "The occurrence of the Lesser Scaup Duck at Lake Burford was of especial interest as, though the birds were present in fair numbers and evidently mated, they were not breeding."

'Extracts from Notes made while in Naval Service' by W. T. Helmuth, brings together many fragmentary observations. It is so comparatively seldom that an ornithologist has opportunity to observe at sea, that notes there made are very useful in piecing out what we know of habits and occurrence of seabirds and trans-ocean migrations and wanderings of land birds.

'Additions to the Avifauna of the Pribilof Islands, Alaska, Including Four Species New to North America' by G. D. Hanna, treats of that far northern island region where East meets West with a strange mingling of bird possibilities.

A 'Revision of South American Crested Quails' by Todd is illustrated with a frontispiece color plate of the heads of eight birds and distributional maps. Other papers of technical systematic interest contain the description of a new form of North American Black Duck, resident in the Rio Grande Valley of New Mexico, by Wharton Huber; a refutation by Swarth of the proposal by J. D. Figgins that two forms only of the Canada Goose, a large and a small one, be recognized, intermediate birds to be considered hybrids; and a fifth annual list of proposed changes in the A. O. U. Check-List, by Oberholser.

In this number the 'General Notes' contain many interesting habit instances, records of unusual occurrences, and other matter. Recent differentiation of the Newfoundland breeding race of the Red Crossbill has enabled Bent to follow extensive wandering of birds from that limited region. Observations by A. A. Saunders indicate that, after a period of several years of abundance, the destructive tent caterpillar (ordinarily relished only by Cuckoos) was destroyed in great numbers in the spring of 1917 by the chance coincidence of the great spring flight of Warblers, Thrushes, and other insectivorous birds, which, in the comparative absence of other insect food, preyed upon the caterpillars.—J. T. N.

Wilson Bulletin.—The December, 1919, number contains an interesting article by N. Hollister on 'Some Changes in Summer Bird-Life at Delavan, Wis.', the summer of 1919 being compared with intensive field work from 1888–1902. Mr. Hollister records the entire disappearance of Foster's Tern, Upland Plover, and Ruffed Grouse. The Hawks, Pied-billed Grebe, Wood Duck, Nighthawk, Bluebird, Thrasher, Barn and Cliff Swallows, and Chipping Sparrow have decreased more or less markedly, while certain Ducks and smaller land-birds have greatly increased. Mr. Hollister concludes that the gradual advance of civilization will result in the extreme abundance of those species which possess the greatest adaptability and the ultimate disappearance of the balance of the original avifauna, a conclusion amply endorsed by experience in Europe over a much greater extent of time. Two local lists and some General Notes conclude the issue.

'The Birds of Wakulla County, Fla.,' by John Williams, is of particular interest as coming from the pen of an experienced ornithologist, dealing with a territory which the reviewer believes to be the richest in bird-life in eastern North America.

In the March, 1920, number, John Williams continues his 'List of Birds of Wakulla County, Fla.' He records the Willet as a summer resident, while the reviewer has recorded the Western Willet in winter, purely on the ground of geographic probabilities. Neither of us seems to have taken specimens or at least to have compared them carefully—an excellent illustration of a case where sight records are of no scientific value, when two equally conscientious observers come to opposite conclusions on *a priori* evidence. At present two races are definitely recorded from the same locality, neither having any definite claim to admission. The fact remains that northwest Florida is about half-way between the known breeding limits of the two races, and breeding birds from there should be carefully determined, as no matter which race they are referred to, the breeding range of that race will be altered in the next A. O. U. Check-List. Harry C. Oberholser contributes a brief synopsis of the genus *Thryomanes*, describing as new *T. bewickii ariborius* from Agassiz, British Columbia. An article on an early Bluebird migration in 1917, in Iowa, by Howard Clark Brown, another on the Raptores of Nelson County, Ky., by Ben J. Blincoe, an account of the Annual Meeting of the Club, and the Membership Roll complete the issue.—L. G.

Bird-Lore

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Bird-Lore's Motto:
A Bird in the Bush Is Worth Two in the Hand

In our more northern and eastern states, the Robin and House Wren have established more intimate relations with man than any other of our native birds. Civilization has reduced the number of their enemies and increased their available supply of food, and, of recent years, man has become a friend rather than an enemy. Beyond question, the Wren population has been greatly increased by the erection of houses for their nests, while the Robin needs but slight encouragement to become semi-domesticated.

It follows, then, that in this part of our country these two birds have made more human friends than other common but less trustful species, and the pleasure of this association, on our side at least, is reflected in the numerous accounts Bird-Lore receives of the habits of these two birds. Several of them are published in this issue of Bird-Lore, which might, indeed, be called a Robin-Wren number.

On April 23, an expedition led by J. O. La Gorce, associated with Louis Agassiz Fuertes and Norman McClintock, sailed from Miami for the Bahamas in search of Flamingoes. Fuertes' object is to secure additional life studies of these birds on which to base certain murals he has in mind, while McClintock seeks new channels for his well-known skill with the motion-picture camera and telephoto lens. It is to be hoped that a nesting colony of Flamingoes will be found.

The Annual Report of the Chevy Chase Club, of Washington, contains a statement which we wish might be brought effectively to the attention of the officials of all other golf clubs in this country. It reads "land not needed for golf or bird cover has been cultivated . . .," etc., indicating that those in charge of the grounds of this club consider cover for birds second only in importance to golf, the main object of the club's existence.

As a result, the grounds of the Chevy Chase Club have become a sanctuary where birds find not only protection from man but cover which gives them concealment from their natural enemies. A Martin-house is thronged with cheerful tenants; Mockingbirds and Robins, representing respectively the South and North, here meet in safety on common ground; Wood Thrushes abound about the clubhouse; there are Cardinals in the nearby woods, Flickers and Red-headed Woodpeckers are everywhere, and Bob-whites, Meadowlarks, and Killdeer mingle with the golfers.

One need not be an ornithologist to derive keen pleasure from the presence of these and many other birds which make their home at Chevy Chase. By the exercise of both sense and sentiment the club has added immeasurably to its assets. We commend its example to the authorities of golf clubs everywhere. If their grounds are too restricted to afford 'bird cover,' at least they may erect bird-houses, and, in the absence of 'water hazards,' a bird-bath will prove both an attractive and acceptable substitute.

The League of Wild Life Photographers was organized at the American Museum of Natural History, with the following officers:

President, George Shiras, 3d; Vice-President, Frank M. Chapman; Secretary, J. T. Nichols; Treasurer, E. R. Sanborn. Directors, Clinton G. Abbott, Carl E. Akeley, Arthur A. Allen, Ernest Harold Baynes.

The objects of the League are not alone to promote the interests of genuine wild-life photography, but to expose the makers of spurious 'nature' photographs.

The Secretary's address is, care of the American Museum of Natural History.

The Audubon Societies

SCHOOL DEPARTMENT

Edited by A. A. ALLEN, Ph.D.
Address all communications relative to the work of this department to the Editor, Cornell University, Ithaca, N. Y.

LEARNING BIRD SONGS

I am sitting in a New York City railroad station trying to assemble my thoughts on the songs of birds. All about me is the murmur of strange voices, interrupted occasionally by the 'klaxon' of a passing motor car or the stentorian calls of an attendant announcing a train. There are hundreds of voices, all strange to me, and they mingle in one great hubbub from which I can derive neither pleasure nor interest. Still, voices are interesting to me, and I enjoy listening to people talking.

I am thinking now how different it would be if I could recognize a few of the voices about me as those of friends, how much more enjoyable and how much more profitable would be my wait for the train. It brings to my mind my first experiences in the woods, when all of the wood-folk were strangers to me, when I scarcely knew the call of the cicada from that of the tree-toad, and when all birds seemed to call and sing alike. There was a hubbub in the woods in those days; the morning chorus of songsters was a disturbing noise; my ears brought me little pleasure.

Now I think over how, one by one, I learned the different calls of the wild folk until the hubbub changed to music, and the morning chorus, instead of being a disturbance, became a joy to be looked forward to and long remembered. As I sit in this lonely station full of people, I know how I would feel if I should suddenly hear the voice of a friend talking near me, and I realize that it would be the feeling that came to me when I first recognized the bell-like notes of the Wood Thrush rising above the clamor of the lesser folk. It is the feeling that still comes to me when I listen to the chorus of voices on a May morning and pick out one friend after another as he announces his presence, his 'Good Morning,' if you will, to all his brothers and to me. For now my ears bring to me even as much pleasure as my eyes, and I am sorry for those who do not hear.

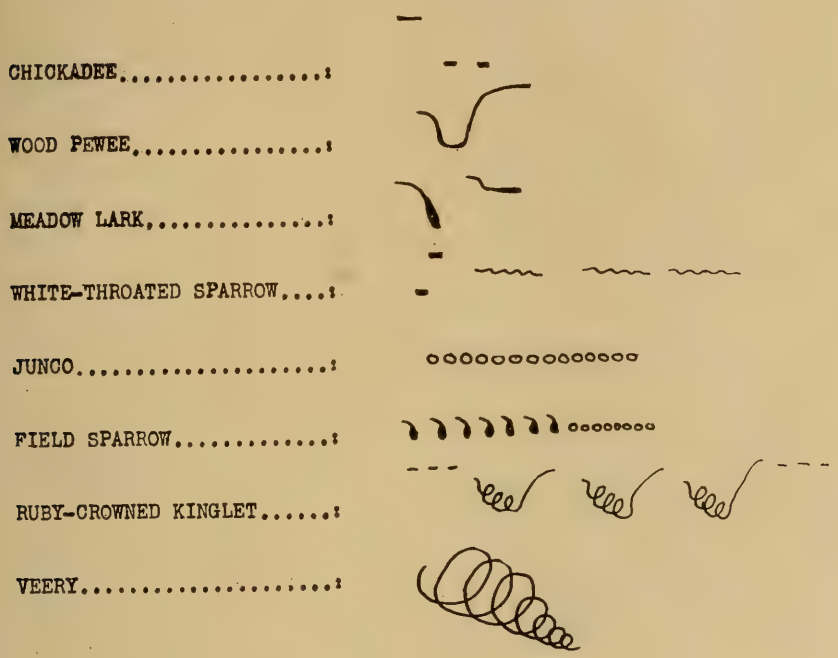
Many persons have come to me with the query as to how they can learn the songs of birds, or how I learned them, until I am forced to try to arrange my thoughts and experiences into these few paragraphs, hoping that they may stimulate others to enter a field that is as elusive as it is enjoyable, as intangible as it is profitable.

The greatest difficulty in discussing the subject of bird-song is in the shortcomings of the English language, for words fail to convey the impressions

made by the voices of birds, just as our artificial musical scale fails to adapt itself to their music. There are, however, a few principles which, if borne in mind, facilitate the learning of birds' songs. In the first place, one must not expect to learn them all at once, for the learning of birds' voices is even more time-consuming than learning the birds themselves. One must follow up every strange call that he hears and identify the musician, and perhaps repeat this several times for each bird before one can hope to recognize every bird that he hears. Most persons have difficulty in so memorizing a complex sound that they will recognize it when heard again. Or, after it has been heard many times and has become a familiar sound, many have difficulty in linking up the name of the bird with the song unless the sound can be associated with some visual impression that can be remembered and tied to the name of the bird. If the song of the bird brings to mind a certain picture or image, it is comparatively easy to associate the name of the bird with that picture. The pictures may be of very different types, according to the complexity or quality of the song. Some match up readily with spoken words or phrases, while others, and perhaps the majority, have a quality difficult to express in language and are best represented by symbols. Thus, the syllables *phe-be* admirably fit the song of the Chickadee, the word *pee-a-wee*, that of the Wood Pewee, and the phrase *poor-sam-peabody*, *peabody*, *peabody*, that of the White-throated Sparrow. Other songs, however, like those of the Chipping Sparrow, Ruby-crowned Kinglet, and Veery are best represented by symbols. Some songs may be represented by both.

In using symbols to represent bird-notes, the writer avoids the customary musical notation because, to his mind, the arbitrary notes of the man-made scale are adapted to a relatively few birds' songs. The symbols which have proved most satisfactory to him are series of lines, dashes, dots, circles, etc., placed in such relation to one another that their vertical position, as in musical notation, indicates their pitch, the length of the line or dash, the duration of the note, and the shape of the symbol, the quality. The last is the most difficult to explain and is doubtless a personal matter of reminiscence or association. It has, however, proved useful to hundreds of his students, and is given for what it is worth. Thus, a very fine hissing note, like that of the Golden-crowned Kinglet or Cedar Waxwing, is represented by a thin line, a somewhat fuller whistle like that of the Chickadee or Pewee, by a broader line, and a still fuller mellow note, like that of a Junco, by small circles. A clear note is represented by a straight line or dash, a tremulous note by a wavy line, and a warble, by a more or less coiled or spiral line. If a bird's song is continuous, the lines are all connected; if discontinuous, they are spaced according to the phrases of the bird's song. A glance at the accompanying table should indicate the writer's meaning. Those unfamiliar with any of the songs listed can compare the following table of phrases, which fit some of the songs nearly as well as the symbols, and the curious shapes may take on some meaning.

Chickadee	*Phe-be.*
Wood Pewee	*Pee-a-wee.*
White-throated Sparrow	*Poor -Sam -Peabody, Peabody, Peabody.*
Meadowlark	*Spring-is-here.*
Field Sparrow	*Here, here, here, here, sweet, sweet, sweet, sweet.*
Junco	*Sweet, sweet, sweet, sweet, sweet, sweet, sweet.*
Ruby-crowned Kinglet	*See-see-see, justlookatme, justlookatme, justlookatme, see-see-see.*
Veery	*Turee, aree, aree, aree, aree.*



BIRDS' SONGS SYMBOLIZED

As in many other subjects, when one has mastered one song completely, the whole subject becomes much more lucid. If anyone interested will attempt to symbolize some common song with which he is familiar, the foolish little diagrams here shown will take on new meaning, and he will soon be taking down unfamiliar songs in a strange shorthand script that will cause him to remember the songs.

A number of birds have songs which have the exact quality of a high-pitched, human whistle and can be closely imitated by anyone willing to practice. So accurately can these songs be imitated that it will often deceive the birds themselves, and they will approach very closely in their search for the other bird. Particularly is this true of Chickadees, Wood Pewees, Field Sparrows, White-throats, and Baltimore Orioles. Upon several occasions the writer has had birds of several species approach within arm's length, and he

has had Chickadees perch on his cap and hover before his face peering into the little round hole in search of the other bird. Upon one occasion this spring he was surrounded by a class of fifteen or twenty students, and yet the little Chickadee performed thus in search of his whistling fellow.

The learning of birds' songs, either by the use of phrases or symbols or by whistled imitations, can well be used by teachers and bird-club organizers in maintaining interest in bird-study. It is often valuable in controlling unruly boys when their interest in the ordinary bird-study begins to flag, and many can be encouraged to control their whistles and to utilize them to good advantage. I have known of schools where whistling competitions were inaugurated and discipline became easy, as some of the roughest youngsters became most adept at imitating birds' songs.

When one has mastered a few songs, the rest come much more easily, and one soon becomes interested in some of the more general phases of bird-music. For such as may wish to continue their observations further than the mere learning of the songs, the following brief summary of the natural history of birds' songs is added.

THE VOICES OF BIRDS

There can be little doubt that the voice in birds has been developed, as in other animals, as a means of communication. This does not necessarily imply an elaborate thought mechanism nor even an extensive vocabulary, but merely a means of communicating their feelings. Anyone who makes an extensive study of the call-notes of one bird, however, will be impressed with the number of modulations, and these may correspond to different words. The barnyard fowl, for example, in leading her chicks about, is continually calling to them in various notes. One announces food, another announces danger, another calls them to brood, and so on. What is true of the domestic fowl is true of all birds, only most of us are not familiar enough with them to recognize the differences, and even if we do recognize differences, it is almost impossible to represent them with words.

Certain of the call-notes are apparently recognized by all birds, while others may or may not be understood by other species. When a Robin discovers a Hawk or an Owl, it gives a certain note, and not only do all the Robins of the vicinity flock to the spot, but birds of other species as well seem to recognize the 'rally call.' Another call which is apparently recognized by all species is the distress call. This can easily be imitated by moistening the knuckle of the bent forefinger or the back of the hand and kissing it very lightly, so as to produce a distressing sort of squeak. It usually requires a little practice to do it well, but with experience one can produce such a realistic call that birds of all species will flock to the spot to learn the trouble. The writer has had as many as thirty different kinds of birds in sight at one time, and some of them within arm's length, by calling thus from concealment. Like

the cry of 'wolf, wolf,' however, continued use of the 'squeak' at one spot destroys its efficacy.

Another call that is apparently recognized by more than one species, is the food-call of the young, particularly the call that is developed when the young leave the nest, so that their whereabouts will be known to the parents. This call is very insistent with some young like those of the Cowbird and Baltimore Oriole. The writer has observed a Redstart returning with food for its young, to be waylaid by a young Cowbird that was being raised by a Red-eyed Vireo, and to actually give the food which it carried to the young Cowbird, so insistent were its cries. Upon another occasion, where two Robins were nesting side by side, unusual enough in itself, one of the Robins deserted its own young, which were just hatched and had not yet developed the food-call, to assist in the care of the other young which were just leaving the nest and whose cries were very insistent.

SWAMP SPARROW SINGING FROM A FAVORITE REED

The calls of birds are apparently inherited, for young birds hatched in incubators or under other birds seem to have the calls of their species. Their songs, however, are apparently largely a matter of imitation, and birds never hearing the songs of their species develop very different songs. The adaptability of birds' voices in this respect varies considerably. Some birds like the Parrots and members of the Crow family, learn a variety of sounds readily and are easily taught to imitate the human voice. Other birds can be taught to whistle tunes or the songs of different birds, and birds like the Mockingbird, Catbird, and Brown Thrasher seem to do this naturally and are well known as mimics.

In the development of birds from their reptile-like ancestors, undoubtedly the call-notes arose long before songs, for true songs are still confined to what are considered the higher families of birds, i. e., those above the Flycatchers. The lower orders of birds have substitutes for song, some of which are just as elaborate as the songs of many of the Corvidæ or Icteridæ, which are considered true singing birds. The laughing of the Loons, the cooing of the Grebes, the whistling of the shore-birds, for example, are much more musical than the guttural notes of the Crow or the shrill, hissing notes of the Cowbird. Nor can one always determine the musical quality of the song by the elaborateness

of the structure which produces it, for the vocal apparatus of some of the lower orders is more complicated in some ways than that of the true songsters.

The voice of birds is not produced in the larynx as it is in man, but in a structure called the syrinx, which is located at the opposite end of the trachea, where it divides into the bronchial tubes. Here are located the membranes which vibrate, as do the vocal chords of mammals, to produce the sounds. Without going into details of structure, it might be mentioned here that in the true singing birds, called oscines, these membranes are controlled by from five to seven pairs of muscles, while in the lower families the number of controlling muscles is less. The sounds are produced entirely by the air rushing past these membranes, causing them to vibrate, the rapidity of the vibrations and the corresponding sounds produced being controlled by the tension of the muscles. Undoubtedly the larynx and the tongue more or less modify the sounds, if we can judge from their motions during singing. There are, however, among the higher families, no sounding-boards such as are developed, for example, in the trachea of the male ducks. The syrinx of a male duck is a curious looking object because of the great shell-like swelling of the lower end of the trachea, which gives resonance to the mating-call. In addition, certain species have accordion-like enlargements of the middle of the trachea, features which are never developed among the true songsters.

HOUSE WREN SINGING IN CHARACTERISTIC POSE

The song of birds, like the bright plumage of many, is undoubtedly a secondary sexual character, and has been developed as a means of bringing the sexes together. As one might expect, therefore, it is best developed in the males and largely confined to them. The females of a few species, however, occasionally sing nearly as well as the males, but their songs are usually much more subdued. Female Cardinals, Rose-breasted Grosbeaks, and Purple Finches are noted for their vocal ability, and a number of tropical American Wrens sing delightful little duets with their mates. (See 'Impressions of the Voices of Tropical Birds' by L. A. Fuertes, November-December, 1913, BIRD-LORE.)

Song is usually concomitant with the breeding season. With some birds, like the Red-winged Blackbirds and the Warblers, it begins with the northward movement in the spring, and they are singing their full songs when they

pass through on the spring migration. Others, like the Thrushes, seldom sing until they arrive on their nesting-grounds and sometimes not even until the females arrive. Similarly, song ceases soon after nesting is begun, or at least by the time that the young leave the nest. Thus, Bobolinks and Orioles cease singing the last of June or early in July, and other birds follow suit shortly afterward, except those that nest late or have more than one brood. During the moulting season of August and September, practically all birds are silent, except those indefatigable songsters, the Song Sparrows and the Red-eyed Vireos.

Inasmuch as the object of song is to announce the bird's presence, the bird usually chooses a very conspicuous place from which to sing, thicket-loving species like the Brown Thrasher and Song Sparrows leaving their hiding-places and mounting to the tops of the bushes or trees to express themselves, and field-loving birds, like the Meadowlarks and Vesper Sparrows, mounting to the tops of fence-posts. Many terrestrial birds that can find no prominent places from which to sing, develop the habit of flying up into the air to sing, the flight-songs of the European Skylark being one of the beautiful expressions of nature. The performance of our own Horned Larks, while less musical, is no less remarkable. Starting from the ground, the male bird mounts into the air on an immense spiral, rising until he is barely visible from the ground. Then, hovering for a few moments or fluttering like a falling leaf, he gives vent to a song which makes up in enthusiasm what it lacks in harmony. At the close of the song, he may drop to a lower level and repeat it, or he may perform one of the most remarkable feats of which a bird is capable, for, closing his wings, he drops like a plummet toward the earth. From the merest speck in the sky, hundreds of feet in the air, he dashes toward the earth as though he were a stone, until one expects to see him smashed to pieces against the hard earth. When within a very few feet of destruction, however, he spreads his wings, checks his momentum by a forward glide, and gracefully alights. Birds of almost any species occasionally indulge in flight-songs when no perch seems to satisfy them and they bound into the air on quivering wings to give vent to their feelings. Especially is this true of the Ovenbird

HOUSE WREN SINGING
The notes are produced in the syrinx but are modulated by the throat

whose ordinary song of *teacher, teacher, teacher,* is introduced by some wild ecstatic notes that one would never guess were produced by the same bird. The flight-song is given usually just at dusk, or after dark, and the singer often mounts high above the trees during the performance. Some of the most impressive moments that the writer has ever spent have been in the forest at dusk when the silence was interrupted only by the bell-like cadence of an occasional Hermit Thrush and the wild, ringing, ecstatic flight-song of an Ovenbird.

The singing of birds at night, by its very incongruity, always awakens our interest. The European Nightingale has been lauded since ancient times because of its nocturnal outbursts, but it is not alone in this habit. Aside from the Owls and Whip-poor-wills, that one naturally expects to be active at night, during the height of the mating season one may hear the song of almost any bird ringing out on the night air as though the songster could not contain himself. Yellow-breasted Chats are particularly noisy at night and, on the marshes, the Wrens, the Rails, and the Gallinules seem to take on renewed activity when darkness falls. Robins, Song Sparrows, Chipping Sparrows, and other familiar birds often cause our gardens to echo in the dead of night, and the Mockingbird of our southern states is said to do its finest singing on moonlit nights.

Birds frequently become greatly attached to certain perches from which they sing, the Robin to a certain gable, the Mockingbird to a certain chimney, the Thrasher to a certain tree-top, etc. The accompanying photograph of a Swamp Sparrow was secured by observing that the bird always came to a certain reed in the marsh to sing. To our eyes it looked just like a thousand other stalks, but the Sparrow had formed the habit of always singing from this stalk and the presence of the camera did not deter it. The same might be said of the photograph of the Wren. The Ruffed Grouse returns to the same log to drum day after day and season after season, and Flickers and other Woodpeckers often return to the same tin roof or other resounding surface, year after year.

The drumming of the Grouse and the tattoos of the Woodpeckers are not what could be called songs, but they are substitutes for song and serve exactly the same purpose. Another mechanical sound that takes the place of song is the 'winnowing' of the Woodcock, a sound produced by the air rushing through the outer primary feathers as the bird dashes toward earth on a zigzag course from a great height. The three outer primaries are narrowed and stiffened for this very purpose, and their vibration produces a weird but harmonious sound when heard in the gathering dusk or after night has fallen.—A. A. Allen.

QUESTIONS

1. Why do birds sing?
2. Do all birds sing, and what constitutes a true singing bird?
3. Name five birds that are singing when they arrive at your locality in the spring.

4. Name five birds that do not commence to sing until after they arrive or that never sing in your locality.

5. Have you ever heard a female bird sing? Be sure that it is a female and not an immature male which has the plumage of the female.

6. Have you ever heard a bird sing at night? How many kinds?

7. Do you know of any favorite perches from which birds sing? Have any of them been used for more than one season?

8. What mechanical substitutes for birds' song have you heard and how are they produced?

9. How many kinds of birds have you heard singing on the wing? Were their songs the same as those ordinarily given in each case?

10. How many different birds' songs do you know and how did you learn them? Can you imitate any of them?

11. Have you learned to imitate the '*squeak*' or distress call of birds and if so, what is the greatest number of birds you have ever called together at one time?

12. Do birds sing near their nests? At what time of day are they nearest to their nests while singing?

13. When do birds stop singing? Try to keep a record of the last time you hear each species sing this summer.

14. Do birds inherit their songs or do they learn them by imitation? When do they learn them?

15. How many different call-notes have you heard from one bird?

For or From Young Observers

HOUSE TO LET

Mr. C. Pigeon, Editor
  Of the Daily Winged Sun.
Dear Sir: Enclosed you'll find an ad.
  We'd like to have you run.

For Rent: One unused summer-house
  In vines that grow so high
Both rooms and perches, back and front,
  Are hid from passersby.

Surroundings here are quite the best:
  No cats, worms by the score,
A nearby garden full of seeds
  If young birds cheep for more.

You'll find the neighbors proud to make
  You feel that you belong.
This house was built for birds alone,
  We'll rent it for a song.

—Kathryn Quarles, *Austin, Texas.*

A PAIR OF ROBINS

In the spring of 1918, a pair of Robins built a nest and reared a brood of four young birds in a tin pan that was under the wagon-shed between the revolving hay-rake and the studding. The shed was open to the south, and the pan about six feet from the open and six feet from the ground. We used the shed almost every day for bunching rhubarb and asparagus. At first the birds were timid, but they soon became quite tame. The mother bird would stay on her nest until you almost could touch her with your hand, but the male bird was always shy.

They could tell when a stranger came and would invariably make an outcry and leave the nest for a little while. After the little ones were large enough to leave the nest and fly around, they remained in the vicinity until fully fledged.

In 1919, the same pair of Robins came back, and after a careful inspection of their old nesting-place, concluded to make their home in a maple tree that stood close to the open shed, and there they built a nest and reared their young. Will they come back in 1920? I certainly hope so.—C. B. Fish, *Plainview, L. I., N. Y.*

[This is a good example of the comradeship of birds. We all get a great deal of innocent pleasure from the birds that nest about our dwellings and hope that they will come back to us the following years. Those who do not have birds nesting near their dwellings miss much of that which makes a perfect home.—A. A. A.]

RESULTS OF A BIRD-HOUSE COMPETITION AT SARATOGA SPRINGS, UNDER THE DIRECTION OF MISS KATE McCLOSKEY

AN EXPERIENCE WITH CARDINALS

I am a member of the Junior Audubon Society of Alexandria, Va., and we have a very large society. We have been studying some very interesting birds.

One day last summer I went out walking and saw a Cardinal. He looked like a huge ball of fire. He would fly into the meadow and light on the ground. I thought he must have his nest there, but he did not. He and some others were eating corn in the meadow. The farmer had cut it and left some in the field. It had shucks on it, and I shucked some and put it aside. Then I got about thirty feet away and stood like a tree. The Cardinal and his mate came and ate about twelve grains of corn. I noticed that the mother bird did not eat her food. She took it and flew away to a cluster of trees where I saw her stop. Soon I saw her coming back after more, and she found the father bird still gobbling the food down. After seeing him do this I lay down on the ground, because he was looking right at me. I thought he would go any minute, but he did not. I could have stayed there all night, and watched that bird work for her little ones.—ROY MANDER (Grade IV; age 12 years), *Aldie, Va.*

[Boys and girls who are interested in birds get much more pleasure out of their walks through the country than those who are not, and they grow up to be much more observant and efficient men and women.—A. A. A.]

BLUEBIRDS DRIVE AWAY THE SPARROWS

We boys, Charles Emerson and Edward Dana, made some bird-houses out of starch-boxes. We saw our first Bluebirds on the 24th and decided to put our boxes up. That day we saw the male Bluebird investigating them. The English Sparrows immediately found them and Mr. Bluebird has had a hard time fighting for our boxes. He drives them away and they come back, but he keeps persistently at it.

On the 27th he brought his pretty little mate to see all the boxes. They have hung around one of ours chiefly, and we have hopes that they are going to nest in it. Every once in a while a Sparrow flies into the tree, but he drives it away. It is a very pretty sight to see the female perching on the door and the male on top on guard.

We have seen a good many different species of birds this year, including Herring Gulls, Downy Woodpecker, Crows, Chickadees, Acadian Owl, Evening Grosbeak, Redpolls, Sharp-shinned Hawk, Bluebirds, Robins, Juncos, Fox Sparrows, Song Sparrows, Flickers, Bronzed Grackle, and Phœbe.

We saw large flocks of Juncos, Fox Sparrows, and Song Sparrows together, and two Flickers and a Robin in the same tree. We got within four or five feet of the Downy.—EDWARD F. DANA, and CHARLES P. EMERSON, *Portland, Maine.*

[Would that there were more boys like Edward and Charles to build boxes for the birds and to keep lists of the birds which they see.—A. A. A.]

YELLOW-BELLIED SAPSUCKER

By T. GILBERT PEARSON

The National Association of Audubon Societies
EDUCATIONAL LEAFLET NO. 102

When the autumn days descend upon the Northland, a great change comes over the bird population. The Swallows and the Swifts have already gone, and bird-music becomes very rare—even the Red-eyed Vireo ceases to sing and turns his wing-beats toward the South. Grackles and Robins are hurrying about the country in flocks as though uneasy in their minds. The still nights are filled with strange bird-calls and anxious whisperings as the feathered hosts pass overhead. The groves are alive with a variety of Warblers that are with us only a short time before journeying on to the land where frost is unknown.

It is at this season, when summer is gone and winter is fast approaching, that the Sapsucker makes his appearance. For a few weeks he or some of his friends will stay with us, but look sharp or you may never know that he is here. He is of a very retiring nature, and not given to flying about the country and shouting at the top of his lungs like the Flicker, to whom he is closely related. Look for him in a grove or the woods. Most of his time is passed on trees, often well up among the branches.

The color of the Sapsucker harmonizes so splendidly with the bark that in order to hide when danger appears he has only to remain perfectly still. Clinging there, Woodpecker fashion, head up and braced below by his stiff tail-feathers, he seems to be a part of the tree itself, and sharp indeed is the eye that can detect him.

From the latitude of Ohio southward to Central America, this bird passes the winter, and is always the same, quiet little fellow that we found him to be when we first discovered him in autumn on some shade tree, perhaps in Lincoln Park, Chicago, or Central Park, New York City.

When the snows depart in March the Sapsucker again turns toward the North. Traveling leisurely, and often pausing to pass many days in some chosen spot, he journeys onward, and then one day we hear his plaintive cry in the grove and know that again he is in our midst.

One Sunday morning in the spring of 1918 I took my accustomed walk in a little patch of primitive woods that still remains within the boundaries of New York City. While passing a large tree I noticed several mourning cloaked butterflies clinging to the bark about three feet from the ground. A closer inspection revealed the fact that from a score of small punctures the sap was oozing out and that the butterflies were feeding on this sweetish fluid. Presently one of them flew away in a helpless kind of way and alighted flat on the ground

with outspread wings. The scene was so interesting that I took a seat on a nearby rock intending to see what might develop further. Soon another butterfly fluttered to the ground, and then I discovered that others—in fact nine in all—had already feasted so extensively that they had sought rest on Mother Earth. Six still held their places by the little springs of sap. Would they also be overcome? Also what had punctured the tree to let out the sap? Surely butterflies could not perform such a feat!

At this moment something dropped from among the limbs above and struck lightly on a nearby tree near its base. It was a Brown Creeper, and my eyes followed it as it worked its way upward for perhaps twenty feet. Suddenly a bird that I had not before seen seemed to emerge from the bark just above and the Creeper was driven away. There, on the tree where it had been all along, was a Yellow-bellied Sapsucker. But for the Creeper I should probably not have seen it. The Sapsucker's colors blended so perfectly with the bark of the tree that I doubt if a Hawk could have discovered it as long as it remained motionless. A little later the Sapsucker gave two rather sharp but plaintive calls, but its cry was not answered. The bird-glass in my hand revealed the fact that numerous little holes were yielding their sap up there where the Sapsucker clung. Within a minute I discovered the bird drinking from the fountains he had opened.

The mystery of the holes from which the butterflies were feeding was solved. Looking about I found that two other nearby trees also had little openings picked through the bark from which the sap was flowing. It seemed that the Sapsucker had established a regular cafeteria for himself; evidently he intended to have plenty of food while he stayed with us.

The summer home of the Yellow-bellied Sapsucker extends over the wooded regions of the southern half of Canada, New England, and the northern tier of states. In the mountains it ranges to North Carolina. The Red-naped Sapsucker is the western variety of this bird, and its habits in general are the same. In summer Sapsuckers are said to be very noisy and call and scream and chase each other about in a very boisterous manner. Like other Woodpeckers they drum at times on dead limbs.

For a nest the birds dig often in a living tree from twenty to fifty feet from the ground. From five to seven white eggs are laid in May or early June. These rest on a layer of fine chips picked from the sides or bottom of the cavity for the purpose. In the neighborhood of the nest there may be found, if one will only search long enough, what is called a 'Sapsucker's orchard.' This is a small group of trees from which the birds get their living. Hundreds of holes, usually squarish or elongated in shape, are dug through the bark until the wood is reached. The soft inner bark or 'cambium' is eaten at once and the holes soon fill with sap. Here the birds come many times every day to feed. New holes are added at intervals until the trees become thickly pitted with them.

In North Carolina I once counted 1,671 such holes in the bark of one small balsam. All of these were made during one winter and spring, the last hole being dug on the morning of April 5. Birch trees are often selected as the birds seem to be very fond of the sap these produce. Within two or three years so much of the inner bark has been destroyed that the tree may die. These 'orchards' are frequented every summer for many years and when found may contain a dozen or more trees already dead. Living trees heretofore untouched are attacked as those previously employed as food supplies wither and die. Here the young birds are brought by their parents when they are old enough to fly, and here they feed daily until the approach of winter drives the Sapsuckers from their summer homes. The holes are often formed in rings that run around the tree or in a series of parallel rows extending up and down the trunk or limbs.

In addition to the soft inner bark and sap eaten by these birds, they also capture many insects. Beetles, wasps, and large numbers of ants are attracted to the sap that runs from the little springs the Sapsuckers make, and many are caught by the birds. The tongue of a typical Woodpecker is tipped with a group of backward pointing barbs. It also is very long and can be projected deep into the burrows of an insect lurking in a limb or tree trunk. The barbed tip makes it easy to draw forth the luckless victim. The Sapsucker's tongue, however, is quite different. It is not long, and the fringe of stiff hairs on its tip form a sort of brush which must be of great service to the bird in gathering the flowing drops of sap.

Among country boys the term 'Sapsucker' often is applied to a wide variety of Woodpeckers. In general, all species whose black wings and back are more or less spotted or streaked with white are called 'Sapsuckers.' This includes, in addition to the real Sapsucker, the Downy, Hairy, Red-cockaded, Gila, Texas, and Red-bellied Woodpeckers. In the southern states I have heard the Yellow-bellied Sapsucker called the 'Yankee Sapsucker' because being seen only in winter it is supposed, like other tourists, to come from the North—or 'Yankee-land.'

The question of how extensively Sapsuckers injure trees has often been discussed. This subject has been very thoroughly studied by W. L. McAtee, of the United States Biological Survey. In Biological Survey Bulletin No. 39, issued by the Department of Agriculture, he recounts many interesting facts that came to his attention. He tells us, for example, that comparatively few of the trees attacked by Sapsuckers actually die, although severe damage to apple orchards in Washington and English walnut groves in California has been reported. Evidently the greatest damage done is to forest trees in causing them to form gnarls where holes have been dug through the bark. Sometimes, too, the spores of fungi find entrance through the wounds in the inner bark, with the result that the wood becomes streaked or even may decay. At times spots not unlike those in bird's-eye maple

are formed, and rings of sprouts will appear below the circle of holes made on some trees.

In his summary Mr. McAtee says in part:

"However strong seems the indictment against the Sapsuckers, it must not be imagined that every tree pecked by them is doomed. On the contrary, they frequently work on a tree year after year without noticeably diminishing its vitality. Near Washington the writer has noted large elms whose trunks have evidently been attacked by many generations of Sapsuckers and are freely drilled every year, but which to all appearances are now in perfect health. W. A. Taylor, of the Division of Pomology in the Department of Agriculture, states that at his home in southwestern Michigan there are several apple trees, now over seventy years old, which are known to have been yearly drilled by Sapsuckers without diminishing their vigor or productiveness. The western half of the Department of Agriculture grounds at Washington contains 232 trees, of which 56 have been attacked by Sapsuckers. Only one of these gives external evidence of injury, an English walnut, one limb of which has been partly killed, and only a few are noticeably disfigured."

The Audubon Societies

EXECUTIVE DEPARTMENT

Edited by T. GILBERT PEARSON, Secretary

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$5 annually pays for a Sustaining Membership
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$5,000 constitutes a person a Founder
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FORM OF BEQUEST:—I do hereby give and bequeath to the National Association of Audubon Societies for the Protection of Wild Birds and Animals (Incorporated), of the City of New York.

MIGRATORY BIRD TREATY ACT SAFE

On April 19, 1920, the United States Supreme Court officially upheld the constitutionality of the Migratory Bird Treaty Act. Justice Holmes, in delivering the opinion of the Court, made use of the following significant language:

"But for the treaty and the statute there soon might be no birds for any powers to deal with. We see nothing in the Constitution that compels the Government to sit by while a food-supply is cut off and the protectors of our forests and our crops are destroyed. It is not sufficient to rely upon the States. The reliance is vain, and were it otherwise, the question is whether the United States is forbidden to act. We are of opinion that the treaty and statute must be upheld."

By this action the final step was taken in the long fight for Federal control of the migratory birds which was begun by George Shiras, 3d, when, in December, 1904, he introduced a bill in Congress for the purpose of transferring the authority for looking after the fortunes of migratory birds from the State to the Federal Government.

It will be a matter of interest to members of the Audubon Society to learn that this original bill intended to cover only migratory game-birds. Subsequent bills were of the same character. The National Association of Audubon Societies brought strong pressure to bear to have the bills changed so that they would cover all migratory birds. When the migratory bird law finally was enacted and signed by President Taft on March 4, 1913, it contained provisions for protecting migratory insectivorous birds, because of the fight made by the National Association in their behalf. The printed records show that of thirty-two organizations represented at the hearing when the bill was before Congress, the National Association's representative alone voiced dissatisfaction with the bill as it was written and urged that it be changed to include all valuable migratory birds. It will be noted that it is regarding this group of bird-life that Justice Holmes spoke so strongly in rendering his decision.

The following text of this important Supreme Court decision is herewith reproduced:

Supreme Court of the United States

No. 609. October Term, 1919.

The State of Missouri, Appellant

v

Ray P. Holland, United States Game-Warden

Appeal from the District Court of the United States for the Western District of Missouri.

(April 19, 1920)

Mr. Justice Holmes delivered the opinion of the Court.

This is a bill in equity brought by the State of Missouri to prevent a game-warden of the United States from attempting to enforce the Migratory Bird Treaty Act of July 3, 1918, c. 128, 40 Stat. 755, and the regulations made by the Secretary of Agriculture in pursuance of the same. The ground of the bill is that the statute is an unconstitutional interference with the rights reserved to the States by the Tenth Amendment, and that the acts of the defendant done and threatened under that authority invade the sovereign right of the State and contravene its will manifested in statutes. The State also alleges a pecuniary interest, as owner of the wild birds within its borders and otherwise, admitted by the Government to be sufficient, but it is enough that the bill is a reasonable and proper means to assert the alleged quasi sovereign rights of a State. *Kansas v. Colorado*, 185 U. S. 125, 142. *Georgia v. Tennessee Copper Co.*, 206 U. S. 230, 237. *Marshall Dental Manufacturing Co. v. Iowa*, 226 U. S. 460, 462. A motion to dismiss was sustained by the District Court on the ground that the Act of Congress is constitutional. 258 Fed. Rep. 479. Acc. *United States v. Thompson*, 258 Fed. Rep. 257; *United States v. Rockefeller*, 260 Fed. Rep. 346. The state appeals.

On December 8, 1916, a treaty between the United States and Great Britain was proclaimed by the President. It recited that many species of birds in their annual migrations traversed many parts of the United States and of Canada, that they were of great value as a source of food and in destroying insects injurious to vegetation, but were in danger of extermination through lack of adequate protection. It therefore provided for specified close seasons and protection in other forms, and agreed that the two powers would take or propose to their lawmaking bodies the necessary measures for carrying the treaty out. 39 Stat. 1702. The above mentioned act of July 3, 1918, entitled an act to give effect to the convention, prohibited the killing, capturing or selling any of the migratory birds included in the terms of the treaty except as permitted by regulations compatible with those terms, to be made by the Secretary of Agriculture. Regulations were proclaimed on July 31, and October 25, 1918. 40 Stat. 1812; 1863. It is unnecessary to go into any details, because, as we have said, the question raised is the general one whether the treaty and statute are void as an interference with the rights reserved to the States.

To answer this question it is not enough to refer to the Tenth Amendment, reserving the powers not delegated to the United States, because by Article II, Section 2, the power to make treaties is delegated expressly, and by Article VI treaties made under the authority of the United States, along with the Constitution and laws of the United States made in pursuance thereof, are declared the supreme law of the land. If the treaty is valid there can be no dispute about the validity of the statute under Article I, Section 8, as a necessary and proper means to execute the powers of the Government. The language of the Constitution as to the supremacy of treaties being general, the question before us is narrowed to an inquiry into the ground upon which the present supposed exception is placed.

It is said that a treaty cannot be valid if it infringes the Constitution, that there are limits, therefore, to the treaty-making power, and that one such limit is that what an act of Congress could not do unaided, in derogation of the powers reserved to the States, a treaty cannot do. An earlier act of Congress that attempted by itself and not in pursuance of a treaty to regulate the killing of migratory birds within the States had been held bad in the District Court. United States *v.* Shauver, 214 Fed. Rep. 154. United States *v.* McCullagh, 221 Fed. Rep. 285. Those decisions were supported by arguments that migratory birds were owned by the States in their sovereign capacity for the benefit of their people, and that under cases like Geer *v.* Connecticut, 161 U. S. 19, this control was one that Congress had no power to displace. The same argument is supposed to apply now with equal force.

Whether the two cases cited were decided rightly or not they cannot be accepted as a test of the treaty power. Acts of Congress are the supreme law of the land only when made in pursuance of the Constitution, while treaties are declared to be so when made under the authority of the United States. It is open to question whether the authority of the United States means more than the formal acts prescribed to make the convention. We do not mean to imply that there are no quali-

fications to the treaty-making power; but they must be ascertained in a different way. It is obvious that there may be matters of the sharpest exigency for the national well-being that an act of Congress could not deal with, but that a treaty followed by such an act could, and it is not lightly to be assumed that, in matters requiring national action, 'a power which must belong to and somewhere reside in every civilized government' is not to be found. Andrews *v.* Andrews, 188 U. S. 14, 33. What was said in that case with regard to the powers of the States applies with equal force to the powers of the nation in cases where the States individually are incompetent to act. We are not yet discussing the particular case before us but only are considering the validity of the test proposed. With regard to that we may add that when we are dealing with words that also are a constituent act, like the Constitution of the United States, we must realize that they have called into life a being the development of which could not have been foreseen completely by the most gifted of its begetters. It was enough for them to realize or to hope that they had created an organism; it has taken a century and has cost their successors much sweat and blood to prove that they created a nation. The case before us must be considered in the light of our whole experience and not merely in that of what was said a hundred years ago. The treaty in question does not contravene any prohibitory words to be found in the Constitution. The only question is whether it is forbidden by some invisible radiation from the general terms of the Tenth Amendment. We must consider what this country has become in deciding what that amendment has reserved.

The State as we have intimated founds its claim of exclusive authority upon an assertion of title to migratory birds, an assertion that is embodied in statute. No doubt it is true that as between a State and its inhabitants the State may regulate the killing and sale of such birds, but it does not follow that its authority is exclusive of paramount powers. To put the claim of the State upon title is to lean upon a slender reed. Wild birds are not in the possession of anyone; and possession is the beginning of ownership. The whole foundation of the State's rights is the presence within their jurisdiction of birds that yesterday had not arrived, tomorrow may be in another State and in a week a thousand miles away. If we are to be accurate we cannot put the case of the State upon higher ground than that the treaty deals with creatures that for the moment are within the state borders, that it must be carried out by officers of the United States within the same territory, and that but for the treaty the State would be free to regulate this subject itself.

As most of the laws of the United States are carried out within the States and as many of them deal with matters which in the silence of such laws the State might regulate, such general grounds are not enough to support Missouri's claim. Valid treaties of course 'are as binding within the territorial limits of the States as they are effective throughout the dominion of the United States.' Baldwin *v.* Franks, 120 U. S. 678, 683. No doubt the great body of private relations usually fall within the control of the State, but a treaty may override its power. We do not have to invoke the later developments of constitutional law for this proposition; it was recognized as early as Hopkins *v.* Bell, 3 Cranch. 454, with regard to statutes of limitation, and even earlier, as to confiscation, in Ware *v.* Hylton, 3 Dall. 199. It was assumed by Chief Justice Marshall with regard to the escheat of land to the State in Chirac *v.* Chirac, 2 Wheaton, 259, 275. Hauenstein *v.* Lynham, 100 U. S. 483. Geoffroy *v.* Riggs, 133 U. S. 258. Blythe *v.* Hinckley, 180 U. S. 333, 340. So as to a limited jurisdiction of foreign consuls within a State. Wildenhus' Case, 120 U. S. 1. See Ross *v.* McIntyre, 140 U. S. 453. Further illustration seems unnecessary, and it only remains to consider the application of established rules to the present case.

Here a national interest of very nearly the first magnitude is involved. It can be protected only by national action in concert with that of another power. The subject matter is only transitorily within the state and has no permanent habitat therein. But for the treaty and the statute there soon might be no birds for any powers to deal with. We see nothing in the Constitution that compels the Government to sit by while a food supply is cut off and the protectors of our forests and our crops are destroyed. It is not sufficient to rely upon the States. The reliance is vain, and were it otherwise, the question is whether the United States is forbidden to act. We are of opinion that the treaty and statute must be upheld. Cary *v.* South Dakota, 250 U. S. 118.

Decree affirmed.

Mr. Justice Van Devanter and Mr. Justice Pitney dissent.

BIRD TREATIES WITH OTHER COUNTRIES

In the last issue of BIRD-LORE mention was made of the effort being made to arrange for conventions between the United States and the countries of Mexico and Central and South America, with a view of enacting treaties for the protection of migratory game-birds, similar to the treaty between the United States and Great Britain in reference to birds passing between the United States and Canada. A resolution of the Senate calling for such convention was passed on February 9, 1920, and forwarded to the President. It received his attention on March 20, 1920, as follows: On that day he sent a message to the Senate with which he transmitted the report of Frank L. Polk, Acting Secretary of State, to whom he had referred the resolution for consideration. Mr. Polk not only gives his views on the matter, but states the views of the Secretary of Agriculture to whom he turned for information. It appears that nothing further will come of the matter for the present. Mr. Polk's report is as follows:

"*The President:*—In response to a resolution adopted by the Senate on Feb. 9, 1920, requesting the President 'to propose conventions or treaties with the Republics of Mexico and of Central and South America, for the protection of birds that in the course of their annual migration pass through or from the United States and temporarily sojourn in the countries of Mexico and Central and South America,' the undersigned, the Acting Secretary of State, to whom the resolution was referred by the President, has the honor to lay before the President, with a view of its transmission to the Senate, if the President approves thereof, the following statement in response to that resolution:

"In view of the fact that the Secretary of Agriculture is the official upon whose initiative the Department of State proceeded in the institution of negotiations with the Government of Great Britain for the conclusion of the convention for the protection of migratory birds between the United States and Canada, proclaimed Dec. 8, 1916, the resolution in question was referred to him for advices as to the response which he considered should be made thereto.

"The Acting Secretary of State is in receipt of a letter from the Secretary of Agriculture, dated March 8, 1920, in which the following expression of opinion is given as to the subject matter of the resolution:

" 'In view of existing conditions, the time does not seem opportune to undertake the negotiation of a treaty for the protection of migratory birds with the republic of Mexico, and in the case of most of the republics of Central and South America such treaties are unnecessary at present. In the case of Brazil and Argentina such treaties may be of advantage, but before conventions are made with these republics the Department desires more definite information than is now available regarding both the birds and local conditions. Preliminary plans have been made for securing such data from Argentina and elsewhere, but, obviously, some delay must ensue before such information can be secured.

" 'In the meantime, it appears that the matter of taking up the negotiations of treaties for the protection of migratory birds with any of the countries south of the United States should be held in abeyance until the Department can secure the necessary information to determine with some degree of certainty the desirability and benefits to be derived therefrom. When such information is available, I shall be pleased to submit a memorandum with recommendations covering the subject.' "

The latest move in the effort for bird treaties with other countries is reported in a letter recently received at this office from E. W. Nelson, Chief of the United States Biological Survey.

Mr. Nelson says: "It will interest you to know that the Secretary of Agriculture this morning approved my recommendation to send Dr. Alexander Wetmore to Argentina, Uruguay, Paraguay, and south-

ern Brazil this spring for the purpose of securing needed information concerning the conditions relating to our migratory birds which winter in that region. It is a question just what effect the development of these countries, particularly agricultural, may have on the future of a number of our important birds, including the Golden Plover.

"Dr. Wetmore is, as you know, an experienced and thoroughly trained ornithologist, who will unquestionably bring back most interesting and valuable information on the subject."

AUDUBON FEATHER EXHIBITS

The large consignment of confiscated plumage of wild birds recently delivered to this Association by the United States Treasury Department has created much interest among those who desire to see bird-protective laws enforced. This plumage, while being smuggled into the United States in violation of the Feather Proviso in the Tariff Act, was seized by the United States Custom Officials.

As the material was given to the Association by the Government for educational and exhibition purposes, we have already placed a number of exhibits in various museums and institutions throughout the country. These exhibits consist of Birds-of-Paradise and plumes of the Bird-of-Paradise, made up into various creations for hat adornment; plumes of the Goura, and aigrettes of the White Heron also were included in the collection. The responsible head of each institution that has received these feathers has agreed to be responsible for seeing that they will not be used for personal purposes; that reasonable care is taken to protect them from the attacks of insects; and that they will be displayed with a card calling attention to the law in the matter, and stating from what source they were received.

The Association, therefore, is able to report that it has in the past two months placed these collections on exhibition at the following museums:

Southwest Museum, Los Angeles, Calif.
Museum of Louisiana State University, Baton Rouge.
State Museum, Atlanta, Ga.
State Museum, Augusta, Maine.
Museum of Hamline University, St. Paul, Minn.
Museum of Coe College, Cedar Rapids, Iowa.
Public School Museum, Battle Creek, Mich.
Washington University School of Medicine, St. Louis, Mo.
Arizona Museum, Tucson, Ariz.
University of Rochester, Rochester, N. Y.
Museum of History, Science and Art, Los Angeles, Calif.
Museum of University of Chicago, Chicago, Ill.
Museum, Vassar College, Poughkeepsie, N. Y.
Kent Scientific Museum, Grand Rapids, Mich.
Museum of Zoölogy, University of Michigan, Ann Arbor.
Museum, Maryland Academy of Sciences, Baltimore.
The Joseph Moore Museum, Richmond, Ind.
Indiana State Department of Conservation, Indianapolis.
Zoölogical Museum, Wellesley College, Wellesley, Mass.
Peabody Museum, Salem, Mass.
Museum, State Normal School, Emporia, Kans.
Museum, State Normal School, Winona, Minn.
Creighton University, Omaha, Neb.
Louisville Free Public Library, Louisville, Ky.
Agricultural College, Storrs, Conn.
Barnum Museum, Tufts College, Mass.
State Museum, Trenton, N. J.
Museum, University of Nebraska, Lincoln.
Alabama Museum of Natural History, University, Ala.
State Museum, Gainesville, Fla.
Museum of Natural History, Springfield, Mass.
Lake Forest College, Lake Forest, Ill.
Louisiana State Museum, New Orleans, La.
Museum, University of Minnesota, Minneapolis.
Worcester Natural History Society, Worcester, Mass.
Dartmouth College, Hanover, N. H.
Museum, Guilford College, N. C.
Museum, University of Colorado, Boulder.
Museum of Natural History, Urbana, Ill.

Museum, Hendrix College, Conway, Ark.
Society of Natural History, Wilmington, Del.
Office of Massachusetts Audubon Society, Boston.
Birdcraft Sanctuary, Fairfield, Conn.
Museum and Library, Oregon Audubon Society, Portland.
Brooklyn Museum of Arts and Sciences, Brooklyn, N. Y.

TAMING WILD BIRDS

"To go into the woods and call the birds and have them respond by coming to meet me has been one of my great desires. Accordingly, one fall, after migration was over and the resident winter birds were settled in their chosen locality for the season, I undertook the experiment. I was careful to select a spot easily accessible, for the success of my plan would demand daily visits no matter what the weather might be.

"Selecting a rather open space in the woods, I scattered some nut-meats on the ground, on a log, and on a stump where the food would be in plain sight. I visited the spot several days in succession afterward and found the food exactly where I had placed it. Then one morning I discovered that the food had disappeared. I again distributed a generous supply and the next day found that this also had been taken.

"By making my visits regular and always placing the nuts in the open, the birds came in time to connect my appearance with the renewal of their food-supply. They were usually hunting the ground over when I arrived, waiting shyly but expectantly for me to throw some to them. Sometimes two or three birds would dash for the morsel at the same time and there would be a lively squabble for a moment before the spryest bird would get it. Chickadees, Nuthatches, and Downy Woodpeckers were the regular visitors. They would come right up to the hem of my dress, stand there and look up at me, keenly alert for the first movement of my hand. For a long time they fed about me in this manner, but finally one morning a Chickadee, bolder than the others, fluttered down from the branch of a tree immediately over my head, seized the nut from my outstretched hand, and flew away with it. The moment he did this, two other Chickadees came to my hand from the ground and snatched a nut in the same manner. I soon found that instead of holding out one nutmeat it was best to hold a handful, as the hungry birds were eating constantly. The most pronounced rule of etiquette among Chickadees seems to forbid two or more eating together. As many as ten birds have come to my hand, one after another in almost the same number of seconds, each taking the largest nutmeat in sight and flying away with it. Occasionally two or three would alight on my hand at the same moment, when they would snap at each other and depart instantly without taking the coveted morsel. From the moment they began to eat from my hand they lost all fear of me. Now when I go into the woods they usually see me first and come to me, squeaking and calling delightedly. Sometimes when I enter their habitat I do not see or hear a single bird, but when I call they come flying from many directions—they know my voice. They flock about me with the greatest confidence. They eat out of my hand, whether it is outstretched or not, and if there is no food in my palm they will run up and down my arm peeking into every fold of my coat-sleeve for the nuts that they believe are hidden away. They alight on my hat, on my muff, on my shoulder, and run all over me as though they were playing a game of some sort. If I close my hand, leaving my thumb upstretched, a bird will be sure to perch on the tip and stand there looking haughty and arrogant. If I try to put a nut on the crown of my hat, a smart bird will get it before I can drop it on the hat, and when I pull a peanut bag from my pocket, one of them will dive into it in his haste to get a big nut. They all seem to know where the nuts come from.

"Sometimes one will alight on my muff and sit in the deep fur as though to warm

its feet. Another will alight upon the brim of my hat and stand in ornamental fashion like a piece of rare trimming, Ah! here indeed is the right way to wear a bird!

"Watching and studying these little friends so closely has been delightful. They have individuality. Some are bold and confident and come down into my hand with a bound. The moment they touch it their feet grasp my fingers, and often a very friendly Chickadee will stand there and sing. Others are timid and come barely to my finger-tips, seizing a nut daintily and departing. There is a very rude Nuthatch, whom I have named 'Pretty Boy' on account of his lovely plumage, who does not hesitate to knock a Chickadee from my hand when he is ready to eat. Then there is a greedy lady Chickadee who not only eats all she can hold, but will continue to stay on my hand, apparently for the very selfish pleasure of keeping all the other birds away.

"There is one Chickadee that I call my 'star boarder.' He is always the first to come, the last to leave, and he never misses a meal. He comes squeaking and complaining, clings to my finger-tips, and manages to get the largest nut-meat in sight before departing, squeaking and complaining as he goes. He makes repeated trips, eating all he can hold, then stores other bits away in convenient nooks for a snack between meals.

TAMING A CHICKADEE IN THE WOODS

"The Downies will never come to my hand, but will take food from the ground so near my feet that I have to be on the lookout for fear of stepping on them. The Chickadees are the friendliest. When the photographer and the motion-picture operator came with me to place my bird friends on record, the Nuthatches and Downies left hurriedly and no amount of coaxing would bring them near. The Chickadees paid absolutely no attention to the men. Their attitude seemed to be,

'Well, lady, if you are not afraid of those men, we are not.'

"Truly these birds are not wild. Others of their kind and additional species may be approached as easily. I have done it with Blue-winged Teal, Grebes, Rails, and other birds that are relentlessly hunted. There is no magic pathway to their favor. All you have to do is to convince them that you are a safe person to associate with and generous enough to invite them to dinner and they will do the rest. Try it.—(MRS.) ETTA S. WILSON, *Detroit, Mich.*

MERIDEN (N. H.) BIRD CLUB

The following report of the Meriden (New Hampshire) Bird Club has been received from the President, Mr. Harry B. Preston:

"The activities of the Club, which were somewhat interrupted by the period of the war, were resumed at the beginning of 1919. In spite of the cost of labor and building material, considerable progress was made toward the completion of our Bird Conservation Museum, and it will soon be ready to receive its exhibits. Our Bird Sanctuary attracted an unusually large number of visitors during the summer months. 'Bird Sunday,' which has become an annual institution, was observed on August 31 by special services at which Rev. Manley B. Townsend was the speaker. In connection with his visit to Meriden, Mr. Townsend, then Secretary of the New Hampshire Audubon Society, delivered an illustrated lecture before the Club on the subject, 'Special Adaptations of Birds.' Earlier in August Constance McKay's 'The Forest Princess' was performed at the outdoor theatre in the Sanctuary. The village people and the summer residents coöperated in this performance, and the audience was drawn from the summer colonies in all the surrounding towns.

"Altogether the work of our Club is attracting each year a more widespread interest, a fact that is shown by the associate membership list which includes people from every section of the country."

BIRDS POISONED

The subject of the killing of birds by means of poison, put out to destroy the troublesome rodents in the West, continues to arouse comment and criticism in various sections of the country. The following is contributed by M. Helen Dyer, of Los Angeles:

"Poisoned barley menaces the bird-life of southern California. The Meadowlark, with his sweet note, fast is becoming extinct along country highways. Many others of our useful feathered friends are passing away, killed by eating poisons carelessly strewn to exterminate ground squirrels. Cannot the Audubon Society do something to compel users of squirrel poison to place it in squirrel holes instead of sowing it broadcast? With the extinction of bird life, insect pests will multiply and quickly become a greater problem to farmers than the squirrels are. Some years ago the mongoose was introduced into the Island of Jamaica to exterminate the rats which were ravaging the sugar-cane. The mongoose killed off the rats, and then killed off the birds, and conditions are more disastrous than they were originally. Today it is almost impossible to raise poultry in Jamaica, while ticks, formerly preyed upon by birds, have become exceedingly abundant. Destruction of our birds would bring a swift and painful punishment to our agriculturists and arboriculturists."

NEW AUDUBON SOCIETIES FORMED

Since Oct. 20, 1919, which was the beginning of the present fiscal year of the Association, several new organizations to promote interest in the protection and study of wild birds have become affiliated with the National organization This is one of the many evidences of a renewal of interest in bird-study and bird-protection. During the period of the World War many well-established Audubon Societies and Bird Clubs ceased for a time their activities, and a majority of the newly formed ones languished and died. From the correspondence received at the office of the National Association the past winter and spring it is apparent that there has set in a distinct revival of activities in the interest of wild birds.

The following new organizations have been welcomed to affiliation:

Elkader (Iowa) Audubon Society.
Iowa City (Iowa) Audubon Society.
Jackson (Mich.) Audubon Society.
Nature Club of Ulster, Pa.
Societe Provencher d'Histoire Naturelle of Quebec (Can.).
Stanton Bird Club of Lewiston, Maine.

AUDUBON'S BIRD COLLECTION

In some of the newspapers recently there appeared an item that should be of interest to all students of the life of John James Audubon. This states that Audubon's collection of North American birds, which had been lost sight of for more than thirty years, was recently discovered in Appleton Cabinet at Amherst College, Massachusetts. In the collection there are said to be specimens of birds from which it is believed Audubon painted the illustrations in his great volume, 'Birds of North America.' Fifty of the specimens, dated in 1834, carry labels in Audubon's own handwriting. It is further reported that the collection was originally sold by the Audubon Estate for $600, the purchaser being Ward's Natural History Establishment in Rochester. Later it was purchased by H. H. Farnum and forty years ago presented to Amherst College. Outram Bangs, Curator of Birds of the Museum of Comparative Zoölogy at Harvard University, has taken charge of the collection.

NEW LIFE MEMBERS

Enrolled from March 1 to May 1, 1920

Abbot, Marion S.
Bacon, Miss E. S.
Barnes, J. Sanford
Chase, Mrs. Alice P.
Coe, L. A.
Collins, Mrs. Louis D.
Collord, Clara
Hard, Mrs. Anson W.
Haskell, Mrs. W. A.
Haynes, Miss M. S.
Hewitt, Mrs. Lucy
Hirsch, Sol.
Norton, C. H.
Potter, Julian K.
Root, Mrs. A. K.
Silverstein, Mrs. Rosa
Spreckels, Adolph B.
Sturtevant, M. Louise
Whittemore, Gertrude B.
Williams, Mrs. P. B.
Wyeth, Huston

NEW SUSTAINING MEMBERS

Enrolled from March 1 to May 1, 1920

Allen, J. B.
Arnstein, Mrs. Leo
Ashman, Mrs. Charles T.
Babcock, Dr. W. Wayne
Baldwin, E. E.
Baxter, Philip N.
Beitler, Harold B.
Benziger, Mrs. B.
Biddle, Mrs. Arthur
Bodine, Mrs. S. T.
Bogert, Walter L.
Bosworth, Miss Mary
Boyeson, A. E.
Bradford, Mrs. Claude M.
Bradley, J. Dorr
Buchanan, Miss Elizabeth P.
Burnett, Miss Zila B.
Burrows, Mrs. W. F.
Cadwalader, John, 3d.
Camp, Mrs. George R.
Carter, Alan
Carter, Emmett B.
Cheston, Radcliffe, Jr.
Clarke, John S.
Cohen, Max M.
Collins, Alfred M.
Comfort, James C.
Coolidge, Mrs. Mary B.
Corwin, R. W., M.D.
Craven, William A., Jr.
Cross, Helen A.
DeForest, Eugene
Devereaux, F. L.
Dowd, W. E., Jr.
Eaton, F. W.
Elkader Audubon Society
Elliott, Charles H.
Ellis, William S.
Eustis, George D.
Farley, Mrs. Frank C.
Farnum, Mrs. F. H.
Farquhar, Francis
Field, Mrs. S. P.
Fleitmann, Frederick T.
Fleming, Mrs. Thomas, Jr.
Forbes, Edward W.
Franklin, Mrs. M. L.
Fries Brothers
Garrison, David L.
Gibson, Mrs. J. Howard
Gregory, Miss Elizabeth T.
Grow, Mrs. Eugene J.
Grumbach, N.
Hanson, Elizabeth D.
Hendrie, Jean C.
Henry, Dr. J. Norman
Hensel, William H.
Hoffman, Charles L.
Hughes, Rev. Richard O.
Jackson Audubon Society
Johnstone, Miss Justine
Johnstone, Miss Mary W.
Jones, Mrs. A. H.
Kelso, Dr. J. E. H.
Kennedy, O. W.
Kerr, Wm. M.
Kuhn, Frank
Larned, Miss Emma S.
Lathrop, Mrs. Bryan
Lowry, John C.
McLeod, H. S.
Macomber, Mrs. Ida E.
Marvin, Mrs. Charles I.
Means, Mrs. James
Metcalf, Mrs. L. S.
Miller, Mrs. Edwin S.
Miller, Stephen Meeker
Mitchell, Mrs. Alfred
Morrille, Robert N., Jr.
Morton, John A., Jr.
Mullen, N. E.
Murdock, Mrs. Wm. Edw.
Murphy, Mrs. Daniel F.
Myers, Edward Studley
Nature Club of Ulster
Newbold, Arthur E., Jr.
Newhall, Miss Emma D.
North, Charles J.
Northey, Edward A.
Norton, Miss Sara
O'Neill, William C.
Orr, C. A.
Packard, George A.
Parmelee, James
Parsons, L. E.
Patch, Miss Edith M.
Peter, Mrs. Mare
Philbrick, S. W.
Powell, Mrs. Clara W.
Pratt, Waldo E.
Pupke, Miss Helene C.
Raff, A. Raymond
Reber, J. Howard
Reed, Mrs. George K.
Reefy, Miss Eva L.
Retzlaff, J. E. A.
Richardson, Susan L.
Rittig, George
Rossmassler, Mrs. R.
Sadler, Miss Sara F.
St. John, G. C.
Salter, Mrs. W. M.
Sard, Mrs. R. E.
Sawin, Mrs. Charles A.
Sawyer, Mrs. Laurena T.
Scattergood, Mrs. Thomas
Schrafft, George F.
Scudder, Vida D.
Scull, Mrs. Gideon
Shreve, Mrs. Benjamin O.

Skelton, Miss Bernice
Skinner, Miss Ruth T., 2d.
Smaltz, Miss Elizabeth T.
Smith, Miss Alice P.
Smith, Mrs. Wikoff
Stern, Benjamin
Stevens, Mrs. George
Strouse, Miss Edith M.
Sturtevant, Mrs. Ada M.
Tompkins, Mrs. Ray
Tucker, Gilbert M.
Vaillant, Mrs. S. H.
vonSchroeder, Frederick
Walker, Dr. Alfred S.
Walker, Miss Diantha
Wallenstein, Mrs. Leo
Ward, Howard, Jr.
Ward, Dr. Wilbur
Warner, Mrs. E. C.
Warnock, William A., 2d
Wertheim, Sanders A.
Westcott, Mrs. W. R.
Whittemore, Miss Justine B.
Wilbur, Mrs. George E.
Williams, Franklin
Williams, F. Norton
Wilson, A., Jr.
Wood, Jarvis A.
Wood, Mrs. W. H.
Wood, Mrs. William M.
Woodbury, Ilione F. M.
Woolman, Edward W.
Worrall, James, M.D.
Wunder, C. C.

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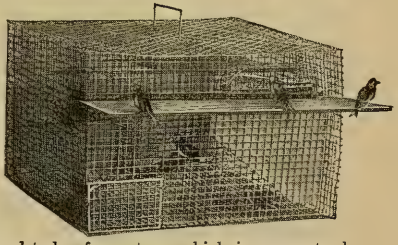

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July-August, 1920

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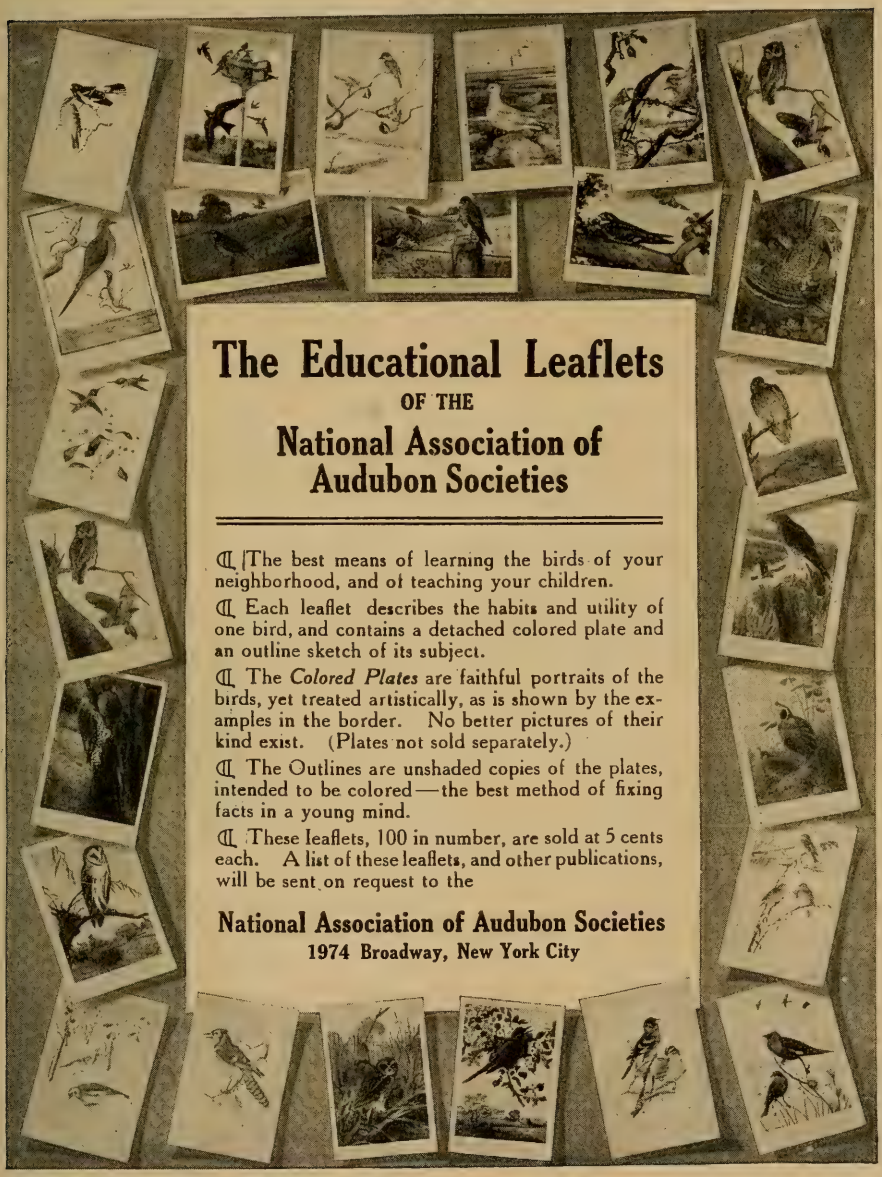

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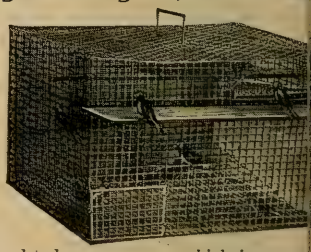

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Vol. XXII JULY—AUGUST, 1920 No. 4

Photographing the Scarlet Tanager

By C. W. LEISTER, Ithaca, N. Y.

EVERY year, with the coming of spring, one always has a few favorites among the hosts of feathered travelers that are migrating northward. One of my favorites is the Scarlet Tanager, and I know of no prettier sight than that offered by a male, busily engaged in pursuing flying insects. With sudden darts into the open, he shows his scarlet and black colors so vividly that the impression is never forgotten.

Tanagers are not common during the summer at Ithaca, usually only one or two pairs being located in a season. The year 1919, however, proved to be a banner year for them. Early in the season we noticed more than the usual number of Tanagers. As time went on, it seemed that more of them were going to nest in the locality than had ever done so before. Often we could hear several males singing at the same time.

The nesting season soon came, and on our walks we were always on the lookout for a pair that had started their nest. For a long time our efforts were unrewarded. Other nests were found but the Scarlet Tanager's remained undiscovered. The males seemed very plentiful but if we tried to keep them in sight very long, we usually lost them along one of the ravines. The females were not often seen and none was noticed carrying nesting material.

Previously, we had experienced unfortunate endings to not a few of the nests that we were intending to photograph, and so we began to fear that this period of bad luck would be extended to include the Scarlet Tanager. This almost proved to be the case.

Several mornings a male was heard singing from a small wooded slope, and we decided there must be a nest nearby. So early one morning I went to watch him. He was singing along merrily in a treetop when he was suddenly joined by his inconspicuous mate, and, with a few low call-notes, he flew with her to a lower branch. I hoped that she would lead me to the nest, and luck

was with me, for after a few moments she flew a short distance down the slope into a small but high elm. There on a horizontal limb, about thirty-five feet from the ground, was the much-desired nest. She immediately began incubating.

I thought that our troubles were now over, for the nest was so situated that it would be fairly easy to photograph, and I could almost see the pictures that I was going to have. However, things were not destined to turn out that way. Several days later, on going to the slope, equipped for picture-taking, neither of the old birds was seen, and we feared that something had happened to them. The ascent to the nest was made, and then, to our dismay, we found that it was empty. Some marauding red squirrel or thieving Grackle, had, in all probability, made off with the eggs. At any rate they were gone and our photography hopes with them. There was nothing left to do but pack up and go home.

FEMALE SCARLET TANAGER AT NEST

There then followed a period that was at first promising and then discouraging, until, one day, much to our surprise, we discovered another nest in a hemlock, about twenty-five feet from the ground and only a little over a hundred yards from the house. A ladder was soon placed against the tree and the climb up to the nest made. It contained three of the beautiful, pale bluish green, spotted eggs. They were still fresh, and so it is possible that the nest was built by the same pair of birds that were so unfortunate in their first attempt. We decided not to place our box camera in the tree until the eggs should have been incubated for four or five days more. After the expiration of that time, on going out to the nest, we found that the worst had happened. There on the ground lay the three eggs, smashed by their fall from the nest above. Several little holes were punched through the shells, which gave evidence that a mis-

chievous House Wren was the culprit this time. I now practically gave up hope of getting any pictures of them this year.

But better times were to come, and about a week had passed when I was told of another Tanager's nest, only twelve feet from the ground and out in the open, over a path, where the light and other conditions were excellent for photography.

We did not have time to visit the nest for a few days, and before having done so, heard that the eggs had hatched and that the young were already several days old. A few days later found us at the nest, with a tall stepladder, tripod, and camera. The ladder was soon erected and, almost before it was in place, we were greatly and agreeably surprised to see the female return and feed her young, paying no attention to the ladder or to us. Heavy teams were moving under the nest all day long, and this had caused her to lose almost all fear of anything coming near her nest. While the camera was being focused on the young, she again returned and evidenced absolutely no fear of either camera or man only three feet away. We were more than delighted! Such a remarkable bird after the disappointing experiences we had had with others of her kind! The camera clicked each time she returned to the nest. Several times a picture was taken, the slide replaced, and a second exposure made before she left the nest for more food, all without any great show of concern on her part. She was such a wonderfully good subject that more than a dozen pictures were soon taken.

MALE SCARLET TANAGER AND YOUNG

The day was warm, and the young seemed to require no brooding, for the general routine at the nest was as follows: first, she fed the clamoring young, then she observed them quietly for a moment, and, finally, before going in search of more food, she thoroughly inspected and cleaned the nest. During the time she was at the nest, we, of course, refrained from making any sudden

A HANDFUL OF TANAGERS

movements, but even though she were frightened away, all her actions were more or less deliberate and no concern was shown for the fate of her offspring. She often perched on some wires running overhead and occasionally gave her little song, very similar to that of the male but much lower in tone.

Four days passed before we had time to visit the nest again and found that

FEMALE SCARLET TANAGER AND YOUNG

the young were almost ready to leave. So we arranged them on a convenient branch and set up our cameras so as to get the old birds feeding them. The female readily fed them in this new location and the male also came with his insect offering. Our only trouble was in keeping the young on the branch. One insisted upon climbing on the back of another, with the result that both usually fell off and we were kept busy replacing them. The female readily fed a young bird held in one's hand, and later when we tried holding all of the young out at arm's length, she fed them there. A handful of Scarlet Tanagers! The male, however, could not be induced to feed them in what he doubtless considered to be such a dangerous proximity. At times he approached within a foot of the extended hand but lost his courage at the last moment. Both behaved splendidly and we took a good many pictures of them.

Our time was limited, and so we placed the young back in the nest, and with a feeling of mingled joy and wonder that such perfectly wild birds could be so confiding, started homeward.

FEMALE SCARLET TANAGER AND YOUNG

A Gnatcatcher's Troubles

By R. D. BOOK, M.D., Corning, Ohio

TWO little Blue-Gray Gnatcatchers were building their nest. Each day it grew larger and larger. Both were doing the work but I judged that the female was the busier. As she arrived with each new particle of material, she would settle down into the nest and turn about to see that it was snug-fitting yet comfortable, then she would dispose of her new material and fly away for more. In a few days it was finished and both of them seemed to be extraordinarily proud of their work. They hung around the nest, jealous of other birds, and took, for such little beings, an amazing amount of comfort in their possession.

The next day I visited the spot again. There was no nest—nothing but a few torn fragments hanging desolate from the crotch of the young oak tree where had been but a day before a most beautiful little bird creation. Off in the grove I could hear the tiny little voices of the Gnatcatchers, however, and I thought to search them out and try to console them in some way for the outrage that had been committed by boys who are uncontrolled by parents, teachers, and a set of officials who labor under the mistaken idea that young outlaws can be influenced by kind words, baby talk, thieves' slang, and puerile piffle.

The little birds needed no consolation from me, however. They were so busy that they scarcely deigned to notice me—or else they were acquainted with me and knew they would not be harmed. I stood near them a long time and watched them building another home. Already it was well under way. It, too, was built next to the trunk of a small oak sapling, in a crotch where a small limb joined the trunk, about eight feet from the ground and two hundred feet from the former location. The nest was not at all inconspicuous and was easier to reach than the first one.

This time both birds were equally busy. The male sang his squeaky little song and hurried back and forth with material, each time getting down into the nest, depositing his small leaf or bit of fiber, reaching over the sides of the nest and meticulously tucking it in with his needle-like bill. If one bird reached the tree before the other was quite through he would wait patiently on a limb while the other completed his work hurriedly and flew swiftly away for more material. There was no jealousy or impatience on the part of the female such as is often seen. They worked in complete harmony and were apparently as happy as birds can be—seemingly having forgotten their misfortune in the new task that confronted them.

The nest was half built when a Wood Pewee, flitting about as is his wont, in search of small winged insects, innocently alighted on a branch of the young oak about five feet from the nest. He was merely taking a rest, but the Gnatcatcher flew at him furiously. There was no argument, no quarrel, no declara-

tion of war, no warning. The little bird seemed to take it for granted that the Pewee could see that they had preëmpted the tree. It was their property; they were building a home upon it, and any bird that had the audacity to perch so near was unacquainted with the commonest woods manners. Back and forth the little thing flew, buffeting the Pewee in the roughest manner. Often his little bill seemed to catch the Pewee on the head or back or side. Still the larger bird obstinately retained his perch, seeming to say, "I am not doing you any harm. This tree is as much mine as yours, and I am not going to leave it." "Squeak, squeak," the little Blue-Gray Gnatcatcher would say, "Get off of here, get away from my property."

Sometimes the little bird would cut a figure eight. He would strike the Pewee on one side, pass over him, then quickly whirl and catch him on the other side before he could regain his equilibrium. Several times the Pewee was knocked from the limb, but he would instantly return to precisely the same spot.

Then the little bird tried new tactics. He alighted on the end of the limb on which the Pewee sat and hopped along it silently, approaching nearer and nearer. The Pewee's head was slightly turned away, either through sullenness or contempt. Suddenly the Gnatcatcher made a swift dash at him. This time he caught him square amidship. There was no hesitation on the part of the Pewee. He did not stagger or try to regain his equilibrium. He was knocked off the limb as abruptly as if hit by a rock. No doubt the little bill pierced his side. This time he did not resume his former perch. He flew to the neighboring tree and the Gnatcatcher immediately resumed his work of house-building.

The little Gnatcatcher's nest is rightly said to be among the most beautiful in bird architecture. While this bird's home was low and for that reason conspicuous, it was of precisely the same color as the tree on which it was built. I discovered in part the reason. A large portion of the material of which it was built was obtained from other oak trees in the neighborhood. Bits of leaf, small scales of the bark, lichen, bits of wood fiber, all were from oak trees. Hence their successful camouflage. At a casual glance their nest looked like an excrescence on the tree—the exterior rough and the color shaded exactly like the exterior of an oak.

The next day after the second nest was completed I visited the spot and found that boys had been there with their slingshots. The nest was knocked from its site and hanging in shreds on a twig below. Securing this I tried to ascertain its precise component parts. It seemed impossible. There were doubtless thousands of separate pieces, many of them quite minute. The coarser nest of the Field Sparrow will often contain over two hundred straws or weed-stalks. In this nest there are many very small fibers, some of them plant fibers, intricately woven and entwined about innumerable scales of oak bark and apparently many reddish oak buds! But the whole texture of the nest

is quite like a bit of closely woven, compact, yet incredibly soft felt—a marvelous structure indeed.

Several days afterward I located the third nest under construction, farther up the hill. This time there was very little squeaking song. They meant business and they had learned a lesson. They were building high in a beech tree, far out on a limb, at least thirty-five or forty feet above ground. Oak trees still seemed to furnish a large part of the material. The nest was visible from practically one spot only. The beech in full leaf hides it completely in all other directions, and it took considerable effort to find the proper viewpoint. There is very little chance that the nest will ever be descried by anyone else and the birds are quite safe.

In a few days this nest was completed. I watched it several minutes today through a field glass, but there was no sign of a Gnatcatcher in the neighborhood or on the nest. I had begun to wonder if something might have happened to the birds when suddenly a tiny bill was thrust above the rim of the nest and, though I could not see it, I have no doubt that an inquisitive little eye was taking in the situation and a diminutive brain was wondering whether some new calamity was about to follow. Then the little bill withdrew and there was nothing more to be seen but the waving beech leaves closely overhanging the nest, screening it from inquisitive eyes, shading from the summer sun and gently fanning to rest a very unfortunate and tired little bird.

A friendly Titmouse that followed me for something to eat inadvertently perched in a tree quite near the beech. Instantly an angry little male Gnatcatcher appeared upon the scene and dashed furiously at the intruder. The Titmouse lost no time in withdrawing, assuming a humble and apologetic manner, and the dauntless though sorely tried Gnatcatcher again vanished. Though hidden from view and hushed in song he was evidently guarding with an ever-watchful eye his beloved mate.

A Curious Nesting Habit of the Tufted Titmouse

By JAMES P. BAKER, JR., Helmsburg, Ind.

ON May 18, 1917, I made a very unusual discovery in the nesting habit of one of our common birds. To me this observation was very interesting for several reasons, not the least of which was my own unique position for witnessing the incident.

My home is in the wooded hills of southern Indiana. On the date mentioned, I was sitting on my front porch, when I observed a Tufted Titmouse fly up from the woods below the house and alight on the ground close to the porch. From the bird's subsequent actions I judged that it was a female. There was something about her manner, an eagerness and alertness, that spoke of urgent duties to be performed. Time was pressing hard, I guessed, because her feathers were sadly ruffled and her beak was opened, as if in distress.

What, thought I, was the cause of such ardent industry? Just at this moment the bird flew upon the floor of the porch, not more than two feet from my chair. What, indeed, would inspire such reckless and daring behavior!

The Titmouse surveyed my feet—they did not stir. She examined my body—it was motionless. A moment more and I checked my breathing—the bird was calmly inspecting me from the arm of my chair. It remained here but an instant and then flew to the back of my chair. I could not see her in this position, but a moment later I could *feel* her! She was now perched upon my head; taking a wisp of my hair in her beak, she gave several sharp jerks. After trying vainly to detach some hair in one place, she would try in another until, exhausted in her attempts, she withdrew to the back of my chair. After a short rest she renewed her efforts, but with no better success. The tools at her command seemed wholly inadequate for tonsorial purposes, and as I was in no wise able to assist her, I concluded that any further exertions might as well be discouraged. Accordingly I made a very slight move, but sufficient to give alarm.

I learned, however, that the bird's investigations in my neighborhood were but partially completed. In her momentary fright she had flown to a tree nearby, but in a minute she was again on the porch, this time on a table which stood by the kitchen door. Here she discovered an old shoe-brush, an object which seemed to meet the exigency of her demands. She gave several heroic tugs at the brush, but not a bristle would yield.

My screen-door stood open, and in the kitchen near the door was my kitchen table. The table caught her eye. That was enough for this Titmouse. From the edge of a molasses can she quickly surveyed an array of culinary articles which covered the table. It revealed nothing of an architectural nature and accordingly she transferred her explorations to the opposite side of the room. Here she examined the kitchen range, but it held nothing she desired. With the hope that such a bold guest might accept the aid and assistance of her host,

I walked slowly into the kitchen. My motives, however, were misconstrued, and after her frantic efforts to escape through the screened window, she found her way to the open door and flew away. That was the last I saw of her.

The above incident has additional interest because of two other observations, which I will describe briefly. In April, 1918, I was living with a neighbor, whose home was about a mile from mine. One day I was watching a collie dog asleep on the grass when suddenly a Tufted Titmouse flew down beside the dog and began picking at his hair. The Titmouse had made but a few jerks when the dog became aroused and moved slightly. This movement frightened the bird and it flew away.

Quite as unusual was an observation made April 16, 1919. A neighbor was helping me saw into logs a large sugar tree which had been cut by coon hunters the previous winter. The neighbor's dog had treed a fox squirrel in a nearby oak. The squirrel was intensely occupied in watching the movements of the dog. A minute or so later a small boy who was with us, and who had been watching the squirrel, exclaimed, "Look at that little bird on the squirrel's back!" I looked up and saw the boy was right. A Titmouse was perched on the squirrel's back, making every effort to secure some of the animal's hair. The squirrel was motionless and the bird tugged away with great ardor. I watched it for perhaps half a minute, when it flew away, accompanied by its mate, which had been watching the procedure from a limb nearby. Such is the courage and daring of the Tufted Titmouse.

NIGHTHAWK
Photographed by Dr. A. H. Cordier, Kansas City, Mo.

The Migration of North American Birds

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Compiled by Harry C. Oberholser, Chiefly from Data in the Biological Survey

EUROPEAN STARLING

The European Starling, which has a wide distribution in Europe, was introduced into the United States about 1890, when a number were brought to New York City and there liberated. Since that time the species has spread into adjoining territory in southern New England and the Middle Atlantic States. It now breeds north to southeastern Maine, southern Vermont, and central New York; west to central Pennsylvania, eastern West Virginia, and central Virginia; and south to southeastern Virginia. It has wandered, chiefly in winter, also to Ohio, and south to Alabama and Georgia. It probably will continue to spread into suitable areas in the eastern United States. The records in the following table indicate, as far as known, its appearance in various parts of the eastern United States.

LOCALITY	Earliest known date of appearance	Breeding Records
Fryeburg, Maine		1916
Hinsdale, N. H.	December, 1911	
Bennington, Vt.	December 12, 1913	
Bellows Falls, Vt.	March, 1915	
Springfield, Mass. (near)	April, 1908	
Meriden, Conn.	March 9, 1908	1910
New Haven, Conn.	December 3, 1900	
Rochester, N. Y.	January 2, 1918	
Orient, L. I.	May 12, 1907	
Poughkeepsie, N. Y.	1907	
New York City, N. Y. (80 birds introduced)	March 6, 1890	
Staten Island, N. Y.		1892
Englewood, N. J.	March 15, 1898	
Plainfield, N. J.	February 11, 1900	
Princeton, N. J.	December, 1905	
Morristown, N. J.	March 20, 1907	
Salem, N. J.	December 5, 1911	
Philadelphia, Pa.	December, 1907	
State College, Pa.	February 29, 1916	
Easton, Md.	February 15, 1910	
Baltimore, Md. (near)	October 24, 1913	
Washington, D. C.	February 9, 1913	
Newport News, Va.	January 4, 1912	
Savannah, Ga.	November 10, 1917	
Junction of Coosa and Tallapoosa Rivers, Alabama	January 4, 1920	

BOBOLINK

The well-known Bobolink (*Dolichonyx oryzivorus*) is a summer resident and breeds in North America, north to northern Nova Scotia, central Quebec, central Ontario, central Saskatchewan, central Alberta, and southern British Columbia; west to southwestern British Columbia, eastern Oregon, and north-

western Nevada; south to northern Nevada, northern Utah, central Colorado, northern Missouri, central Illinois, central Ohio, central West Virginia, northwestern Maryland, central Pennsylvania, and central New Jersey; and east to the Atlantic Coast region from New Jersey to Nova Scotia. It migrates through the West Indies, and less frequently through eastern Mexico and Central America to South America, where it winters from Brazil to Bolivia and Argentina. It is also of casual occurrence in California, and accidental in the Bermuda and Galapagos Islands.

SPRING MIGRATION

LOCALITY	Number of years' record	Average date of spring arrival	Earliest date of spring arrival
Palma Sola, Fla.	6	April 19	April 10, 1913
Savannah, Ga.	14	April 23	April 9, 1912
Charleston, S. C.	7	April 23	April 7, 1912
Raleigh, N. C.	25	May 1	April 17, 1917
Waverly, W. Va.	4	May 3	May 1, 1906
Washington, D. C.	27	May 2	April 26, 1908
Cambridge, Md.	6	April 30	April 26, 1914
Beaver, Pa.	11	May 4	April 29, 1910
Philadelphia, Pa.	9	May 4	April 23, 1896
Morristown, N. J.	13	May 7	May 1, 1888
New York, N. Y.	14	May 6	April 30, 1896
Alfred, N. Y.	30	May 6	April 25, 1905
Holland Patent, N. Y.	17	May 4	April 28, 1890
Hartford, Conn.	27	May 6	May 3, 1911
Providence, R. I.	12	May 10	May 2, 1906
Pittsfield, Mass.	11	May 11	May 7, 1905
Boston, Mass.	27	May 8	May 4, 1914
Bennington, Vt.	13	May 7	April 28, 1913
Hanover, N. H.	11	May 10	May 2, 1890
Plymouth, Maine	19	May 12	May 4, 1880
Montreal, Quebec	14	May 17	May 7, 1913
Godbout, Quebec	2	June 4	June 2, 1884
Scotch Lake, N. B.	12	May 20	May 13, 1910
Chatham, N. B.	20	May 26	May 17, 1896
Pictou, Nova Scotia	9	May 19	May 16, 1892
New Orleans, La.	3	April 19	April 4, 1894
Helena, Ark.	2	April 25	April 20, 1904
Athens, Tenn.	7	April 27	April 23, 1907
Versailles, Ky.	5	May 1	April 26, 1912
St. Louis, Mo.	8	May 1	April 24, 1888
Chicago, Ill.	24	May 1	April 25, 1915
Richmond, Ind.	14	May 1	April 24, 1913
Ft. Wayne, Ind.	13	April 29	April 24, 1913
Oberlin, Ohio	23	April 26	April 16, 1904
Detroit, Mich.	24	May 2	April 20, 1896
London, Ontario	11	May 1	April 25, 1913
Ottawa, Ontario	31	May 16	May 3, 1904
Wall Lake, Iowa	13	May 6	April 28, 1912
Madison, Wis.	22	May 4	April 25, 1914
Elk River, Minn.	9	May 9	May 3, 1914
Onaga, Kans.	15	May 10	May 5, 1908
Badger, Nebr.	4	May 6	May 1, 1900
Forestburg, S. D.	3	May 11	May 6, 1904
Argusville, N. D.	13	May 12	May 2, 1895
Aweme, Man.	17	May 14	May 3, 1902
Qu'Appelle, Sask.	5	May 21	May 12, 1913

SPRING MIGRATION, continued

LOCALITY	Number of years' record	Average date of spring arrival	Earliest date of spring arrival
Boulder, Colo.	5	May 26	May 24, 1904
Cheyenne, Wyo.	2	May 22	May 17, 1888
Corvallis, Mont.	4	May 18	May 15, 1913
Okanagan Landing, B. C.	3	June 2	May 30, 1910

LOCALITY	Number of years' record	Average date of last one observed	Latest date of last one observed
Palma Sola, Fla.	6	May 18	May 26, 1908
Savannah, Ga.	12	May 17	May 28, 1910
Charleston, S. C.	3	May 15	May 19, 1910
Raleigh, N. C.	18	May 15	May 27, 1887
Waverly, W. Va.			May 16, 1905
Washington, D. C.	17	May 21	June 6, 1909
Philadelphia, Pa.	7	May 27	June 17, 1910
New Orleans, La.			May 29, 1915
Athens, Tenn.	6	May 16	May 25, 1909
St. Louis, Mo.	5	May 19	May 25, 1909
Bicknell, Ind.	8	May 23	June 1, 1913
Onaga, Kans.	7	May 20	May 25, 1894

FALL MIGRATION

LOCALITY	Number of years' record	Average date of fall arrival	Earliest date of fall arrival
Palma Sola, Fla.	6	August 27	August 20, 1908
Savannah, Ga.	5	August 15	July 27, 1912
Charleston, S. C.	6	July 20	July 14, 1913
Raleigh, N. C.	15	August 28	August 15, 1893
Washington, D. C.	2	August 18	July 23, 1904
Philadelphia, Pa.	5	August 27	August 23, 1906
Athens, Tenn.	4	September 5	August 27, 1905
Bicknell, Ind.	5	August 24	August 20, 1914

LOCALITY	Number of years' record	Average date of last one observed	Latest date of last one observed
Palma Sola, Fla.	6	October 9	October 16, 1912
Savannah, Ga.	4	October 12	October 21, 1910
Charleston, S. C.	2	October 16	October 17, 1910
Raleigh, N. C.	12	September 21	October 7, 1896
Washington, D. C.	12	October 4	November 14, 1885
Beaver, Pa.	5	September 21	October 1, 1908
Philadelphia, Pa.	4	September 20	September 25, 1791
Morristown, N. J.	8	September 13	September 25, 1908
Geneva, N. Y.	2	September 12	September 19, 1915
Hartford, Conn.	19	September 14	September 27, 1913
Providence, R. I.	2	September 17	September 24, 1904

FALL MIGRATION. continued

LOCALITY	Number of years' record	Average date of last one observed	Latest date of last one observed
Harvard, Mass.	7	September 16	September 25, 1908
Tilton, N. H.	4	September 5	September 19, 1907
Plymouth, Maine	8	August 22	August 30, 1895
Montreal, Quebec	9	September 1	September 16, 1893
Scotch Lake, N. B.	4	September 6	September 25, 1907
Pictou, Nova Scotia			August 22, 1894
Athens, Tenn.	3	September 28	October 6, 1908
Chicago, Ill.	9	September 22	October 3, 1915
Bicknell, Ind.	5	September 25	October 17, 1915
Youngstown, Ohio	6	September 25	October 14, 1916
Wauseon, Ohio	10	September 25	October 8, 1897
Detroit, Mich.	5	September 29	December 20, 1908
Ottawa, Ont.	11	September 10	September 29, 1892
Wall Lake, Iowa	5	September 17	October 10, 1915
Madison, Wis.	8	September 9	September 28, 1909
Elk River, Minn.	3	August 31	September 7, 1915
Badger, Nebr.	4	August 27	September 7, 1899
Forestburg, S. D.	3	September 10	September 18, 1905
Aweme, Man.	9	September 14	September 20, 1910
Corvallis, Mont.			September 4, 1911
Okanagan Landing, B. C.			August 13, 1908

Notes on the Plumage of North American Birds

FIFTY-SEVENTH PAPER

By FRANK M. CHAPMAN

(See Frontispiece)

Starling (*Sturnus vulgaris*, Figs. 1, 2). When the young Starling leaves the nest it wears a lusterless, smoky brown or grayish brown plumage resembling in color that of a female Cowbird. This is worn for several weeks, during the first part of which time the bird remains under the care of its parents and is succeeded, through complete molt, by the first winter plumage which is essentially similar to that of its parents (Fig. 2). During the molt the new shiny black, brown, or white-tipped feathers blotch the brownish juvenal plumage, giving the bird a mottled appearance. There is no spring molt, and the change from winter to breeding plumage is accomplished by a complete or partial wearing off of the brownish or white tips to the feathers. These largely, or wholly, disappear from the crown, throat, and breast, but traces of them remain on the back and belly. The bill changes in color from brown or blackish to yellow and becomes a conspicuous field character. The sexes are practically alike in color.

Bobolink (*Dolichonyx oryzivorus*, Figs. 3, 4). The nestling or juvenal plumage of both the male and female Bobolink resembles in color the one which succeeds it; that is, the first-winter plumage. This is acquired by molt of all

but the tail and most of the wing-feathers, and is like that of the breeding female (Fig. 4) but is everywhere richer, more buffy yellow in tone. This is the 'Reedbird' plumage. It is worn until the following spring when, late in February and early in March, before leaving its winter home in northern Argentina and southwestern Brazil, the bird undergoes a complete molt, including the wings and tail. This creates no change in the general appearance of the female, but the male undergoes a striking transformation. So far as feathers are concerned, he is the bird we know in early summer, but the body-feathers are all so widely fringed with yellowish, those of the nape with brownish, and those of the scapulars, rump, and upper tail-coverts with dusky grayish, that it is difficult to believe the bird can pass into the shining black, buff, and white breeding plumage (Fig. 3) without losing or gaining a single feather. But during the northward migration in March and April, the yellow, brown, and gray tips gradually wear away, the plumage of the nape, rump, upper tail-coverts, and scapulars apparently fades, the bill turns from brownish to blue-black, and by the time the bird reaches its nesting-ground few traces of what one might call its traveling cloak remain.

The post-nuptial or 'fall' molt begins the latter part of July, immediately after the nesting season. Like the prenuptial or spring molt it is complete, and the bird now acquires the Reedbird plumage and can be distinguished from young of the year chiefly by the presence of a few black feathers on the chin and breast. In this plumage male and female, young and old, look essentially alike as they journey through the rice-fields, cross the Caribbean, and travel over more than half the length of South America to their winter home.

Notes from Field and Study

A Town of Five Thrushes

The town of Stowe, Vt., is especially fortunate birdwise,—or, more exactly, thrushwise. The good fortune is one not generally appreciated by the town's permanent residents, perhaps, but the bird-loving visitor in June and July may revel in five breeding species of Hylocichla,—"five brown, wood-haunting Thrushes," as Hoffman describes them.

During the last ten days of June, 1919, my husband and I lived at the upper end of a Stowe valley leading to the eastern slopes of Mt. Mansfield, which lies upon Stowe's western border and has an elevation of 4,600 feet. We arrived at 8 o'clock one evening. All along the wooded ridge north of our house Hermit Thrushes were singing, and we found, during our stay, Hermit Thrushes most numerous of the five species noted.

South of the house, on the farther edge of a grassy meadow, the valley's stream meandered between low, wooded bluffs. Here the Veery sang morning and evening. Veeries were common in favorable locations throughout the lower parts of this region.

In a narrow, wooded valley leading into ours from the southwest, we found a pair of Wood Thrushes, the female (?) sitting on her nest; so we could not doubt these birds were quite at home in this northern locality. Twice again we found Wood Thrushes; in one case, in deciduous woods at considerable elevation, what seemed to be a rollicking family party of parents and grown children.

On the first favorable day we set forth in the early morning for the mountain top, planning to extend the expedition over two days and a night, as there is a small hotel at the summit. The mountain is wooded to its top, and an easy-graded carriage road makes the climb a simple matter for those who do not care to attempt the steeper trails.

As we ascended the mountain, the Olive-backed Thrush gradually replaced the Hermit Thrush. At an elevation of about 1,400 feet, from a low spruce tree close beside the road, an Olive-backed hastily but quietly left her nest and eggs, at our approach.

In June, 1918, we had climbed Mansfield from the south, our special quest being Bicknell's Thrush, said to live about the hotel at the mountain's top. That year we were unable to find any trace of the Bicknell's Thrush, and we are told that other observers have duplicated this experience. Some years, because of weather conditions during migration or for other reasons, no Bicknell's Thrushes return to Mansfield. In 1919, however, we were not again to be disappointed. While still a thousand feet or more from the summit house, we first heard the new song. The quality of voice suggested that of the Veery, but the song was slower, richer, and wholly lacked the Veery's downward spiraling. This first Bicknell's was in some particulars the most accomplished singer of his species we heard, but he lacked the romantic mountain-top environment.

A shower drove us indoors immediately on our arrival at the summit, but when, toward evening, the rain had ceased, we climbed to a rocky viewpoint and looked out upon the tangled mat of dwarf balsam forest which covers the extreme upper slopes and the long, flattened top of the mountain. Here and there the expanse of balsams was punctuated with Bicknell's Thrushes, each perched on or near the tip of a balsam spire. With all of Vermont and much of its neighboring states spread beneath their gaze, and nothing but the sky above, they lifted their heads and voices and sang their little, captivating, haunting song of three to six notes, all the notes, except one, being long and slurred. They put so much of music and time into each note, that the song, even in its three-note form, was still wonderful, and one never heard enough. Indeed, one half

suspected Bicknell's of having adopted the graceless modern practice of deliberately limiting output to enhance value!

It is difficult, if not impossible, to translate into words which shall be universally satisfactory the song of any bird. To us, however, the tender cadence of Bicknell's seemed to indicate, *Oh, sweet, dear Vere de Vere*, each note vibrating and liquid. The shorter forms were, *Oh, dear Vere de Vere*, or simply, *Vere de Vere*. There is little range of tone.

Many other birds rare or interesting added pleasure to our stay near Mansfield, but these five, the Veery, the Wood Thrush, the Hermit, the Olive-back, and Bicknell's —especially Bicknell's—were the crowning joy of our visit to much-favored Stowe.—HELEN G. WHITTLE, *Peterboro, N. H.*

American Egret in Vermont

On the afternoon of Aug. 28, 1918, when passing a pond five miles east of St. Johnsbury, Vt., I saw two large birds on the bank near the road. One of them was a Great Blue Heron, the other an American Egret.

Having seen an Egret in Waterbury, Conn., on July 31 and August 2, I was especially interested. We watched him for fifteen minutes, and, when he flew, the yellow bill and black legs made identification positive. We saw also a large flock of over forty Wild Ducks and also Sandpipers of different species. We learned in St. Johnsbury that the owner of the pond allowed no shooting, and were told that on another nearby pond there had been two "White Heron"—all summer, these doubtless being Egrets.—EMILY FIELD KELLOGG, *Waterbury, Conn.*

An Early Egg of Virginia Rail on Long Island

On the morning of April 13, 1919, a Virginia Rail was found caught in a steel trap set for muskrats in a marsh used annually as a nesting-site by this Rail. On the ground near the bird was an egg that it had dropped. On the preceding day apparently no Rails were in the marsh. They evidently had migrated in on the night of the 12th—a night of warm, heavy rain—for several were observed there on the morning of the 13th. The earliest date of the species' eggs recorded in the nest in the vicinity of Orient is May 28, and their common laying period is the first half of June. It is extremely interesting that this bird should drop an egg on this early date and, apparently, on the first night of its arrival on Long Island. The egg was in dimensions, texture, and markings perfectly normal. Has this species a longer breeding season locally than is commonly recorded? Does it occasionally deposit two clutches of eggs a season? The specimen in question may have been prepared to nest farther south.—ROY LATHAM, *Orient, Long Island.*

Duck Hawks in New York City

I believe that an account appeared in BIRD-LORE, several years ago, of a Duck Hawk which frequented one of the tall buildings in lower New York City, and that a photograph was obtained of the bird. But no printed mention seems to have been made of the Hawks, one or more of which roosted regularly under the eaves of the Hotel Biltmore during a part, at least, of the autumn of 1919, and which, to the best of my belief, were Duck Hawks. I went to New York on September 15 of that year and remained there for eighteen days, staying in one of the skyscraper hotels which overlook the Biltmore. Every afternoon, except two or three, when I was prevented from watching, I saw a Hawk go to roost close up under the eaves of the Biltmore, on the east or south side of the south wing, generally very near the southeast corner of it. Occasionally two birds went to roost. They sometimes appeared early in the afternoon, when the weather was fine, and played about the building for several hours before retiring. Once three birds came, and made a wonderful display as they chased each other about, darting, plunging, and soaring in the unobstructed space above the Grand Central

Terminal. I could not make out whether or not all of them passed the night under the hotel eaves.

There is a dove cote on a sort of terrace at the Biltmore, in which live a few Pigeons. It was interesting to observe that these birds were entirely unmolested by the Hawks and that they seemed to have no fear of them. Apparently, then, the Hawks came to the hotel only after their food for the day had been obtained.—NATHAN CLIFFORD BROWN, *Portland, Maine.*

Some Observations on the Osprey

The nest of the Osprey is as interesting as the bird itself. Made of sticks, straw, seaweed, an occasional piece of cloth, large, untidy, it is perched on the topmost fork of a tall dead tree, sometimes on the cross-piece at the top of a telephone or telegraph pole. The tree is not dead when selected for a nest, but the droppings of the birds, as well as the decomposed fish often thrown out, in time kill it. The same nest is used year after year, being renovated from time to time by throwing out worn parts and replacing them by new ones. When the birds arrive early in April, the female chooses a nest and the courting begins. If there are no nests available a new one is constructed, male and female alike sharing the labor.

In 1919, I had the opportunity for casual observance of two pairs of these birds. One nest was at the back of the house and one at the side. There was much difference in the individuality of the two pairs. Those at the back of the house paired earlier, raised their brood of two birds earlier, and left the nest earlier. This pair were very much annoyed by a Crow which took every opportunity to drive the female from the nest and attempt to get the eggs.

The female of the nest at the back of the house, probably made nervous by the persistent attacks of the Crow, was very excitable. When anyone approached she set up a frightened, raucous cry and sometimes was so worried that she even left her nest and eggs at the mercy of the Crow. Then there was a contest between instinct and fear. Sometimes instinct was the stronger, and, crying harshly, she returned to the nest. Sometimes, still crying harshly, she circled round and round near the nest but did not return until assured that all danger was past. These paroxysms of fear were the more pronounced when her mate was off on his fishing expeditions. When he was there to protect her, she sometimes only emitted her frightened cry and did not leave her nest at all. At other times she seemed to lose confidence in his protection and flew away, abandoning nest and eggs.

The pair at the side of the house were not disturbed by Crows and seemed less nervous than the other pair. This female was very coy and coquettish and it took her some time to decide upon a mate. She was courted by two persistent lovers. One would alight on her nest only to be beaten off. Then the other, taking heart, would try his luck and receive the same treatment. When she finally chose a mate, I am not sure that it was either of these. After she settled down to her domestic duties, she was a faithful spouse, but a rather shrewish one. She insisted on her mate sharing the monotony of incubation, apparently much to his disgust. When she wanted to leave the nest, she became restless and sent sharp, complaining cries to the male engaged in watching over her. Whether willfully or not, he failed to respond. At last, completely exasperated, she flew off the nest to her mate, and deliberately tried to brush him off his perch. He still refused to understand, but her repeated cries and indignities at last had the desired effect. He flew toward the nest, circled about it and finally settled down on it. The female was distrustful. She flew away a short distance and returned to see whether he was still there, repeating this performance several times before she was satisfied that it was safe to take the recreation she coveted. In a few days she had trained her mate to such instant obedience that, when she wanted to leave the nest, she uttered a few sharp cries, and before she flew off the nest he was there to take her place.

As these observations are merely casual,

I do not know whether it is the usual thing for the male Osprey to share incubation. I never saw the male in the other nest do so.

After the young were hatched, the male in the nest back of the house turned out to be a great tease. He would come home with a fine fish, and after the female and young were sufficiently excited and clamoring noisily for the food, he would fly away with it, leaving a lamenting family behind. Sometimes he flew to a nearby tree and watched them; sometimes he flew out of sight, repeating this tantalizing performance several times before giving the food to his hungry family. He never ate the fresh fish himself but always deposited it in the nest where it was ravenously devoured by the female and young while he dined on the reserve food which, of course, was not so savory. The male in the other nest never teased. Coming home with a wriggling fish, he dutifully gave it to his family. Was it the influence of the female that made one male a tease and one a meek, obedient mate?

The brood in each nest consisted of but two birds. They developed slowly and about a month before leaving began to flap their wings and make efforts to use them. Their first flights were simple ones, being low and very near to the nest to which they returned apparently much exhausted. By this time they were as large as the parent birds, but were still fed and cared for by the older ones.

The nest perched on the topmost fork of the tree faces right into the sun and has no protection from rain or storm. During the heat of the day or when the weather was sizzling, the female stood between her young and the sun protecting them by her outstretched wings.

Ospreys are distrustful of each other. A stronger bird attacks a weaker one in mid-air and steals his food. When a female is on her nest and a male is flying near, she becomes alarmed lest he come and take the fish from her nest. They seem to have no honest or fraternal instincts although I have seen them unite to attack a common foe.—ALICE K. MELOY, *Atlantic Highlands, N. J.*

Saw-whet Owl at Branchport, N. Y.

This species is so rarely 'discovered' here that its every appearance is worthy of special notice. On June 20, 1919, in the subdued shade of a jungle of hemlocks, I found this little Owl perched on a lowly branch. He permitted me to approach within several feet, flying but a short distance when I extended my hand. My attention was attracted to him by the scolding of Canadian and Black-throated Green Warblers, both females.

On the following day I had the pleasure of introducing this little earless Owl to Mrs. Stone, and on the third day, June 22, Mr. Burtch and I found him perched in the same hemlock jungle. An examination of many pellets revealed only bones and fur of woods mice; no bird feathers were found.—CLARENCE F. STONE, *Branchport, N. Y.*

Kentucky Notes

During the last days of April, 1919, in a vacant lot near my house, a Mockingbird sang an interesting medley. In the midst of its song it would give in succession the notes of four members of the Flycatcher family, invariably following the same order —Wood Pewee, Phœbe, Great-crested and Least Flycatchers. This occurred many times a day for almost a week.

On Sept. 11, 1919, I found a Dove sitting on a deserted Robin's nest, as if brooding. She remained there two or three days and then disappeared. Whether there were any young hatched or not I could not find out, as the nest was on a small limb of a Carolina poplar, about twenty feet from the ground.

Though White-crowned and White-throated Sparrows are rather plentiful here in winter and abundant in migrations, they vary widely in their distribution. Wherever there is underbrush I find White-throats, but in only three or four places in four or five square miles do I ever see White-crowns. One of these places is a pasture where there are a few scrubby cedars and a hedge of bois d'arc; another is a small honey locust thicket near a

tumbled-down stable. Other places just as promising are occupied by White-throats but never by White-crowns.

On Jan. 19, 1920, I saw what I took to be three Purple Finches in the top of a pine tree. I would have passed them by had they not begun to call. On closer observation I found them to be Red Crossbills, the first record, so far as I can learn, of their appearance here. I observed them closely and heard another small flock late in the afternoon of the same day. Judging from the 1919 Christmas Bird Census, the Crossbills have come much farther south this winter than usual.

Why does not the Red-headed Woodpecker winter here? It is a common winter resident in many parts of the state and was reported from ten places north of here in the 1919 Christmas Bird Census. We have plenty of mast here and everything is as favorable for Red-heads as can be found in the sections where they winter.—GORDON WILSON, *Bowling Green, Ky.*

Blue Grosbeak at Newtown, Pa.

I thought that BIRD-LORE readers might be interested to know that I observed a Blue Grosbeak in this vicinity on Sunday, May 9, There could be no mistake in the identity of the bird for it was watched for fully fifteen minutes and corresponded exactly to the illustration and description in Reed's 'Bird Guide.' This is the second time that I have seen this rare bird in our vicinity, the other time being in 1918.—RUSSELL RICHARDSON, JR., *Philadelphia, Pa.*

Blue Grosbeak at Rock Island, Ills.

May 11, 1920, a pair of beautiful Blue Grosbeaks came to an elm tree outside of our school window. An immense flock of Goldfinches just filled the top of the tree and on my arrival, at 8 o'clock, I went upstairs with my field-glasses to see if any other Finches were among them. Not ten feet from the window, two male Grosbeaks were eating industriously but quietly, occasionally darting out to capture an insect on the wing. I looked at the markings very carefully, the body, head and breast being a rich green-blue, shading into black at the base of the bill. The wings were a dull gray-brown with a lighter cross-bar and a tan spot at the shoulder. The tail was also brown, medium length, with the tips of the feathers rounded. The bill was light and shaped like the Rose-breasted Grosbeak's, only very much smaller. Three females came later in the day, and they were a yellowish tan with darker cross-bars on wings and no blue that I could see.

I watched them three days. The second day there were just the two males; the third, only one, appearing very restless and finally flying off. I had read of Blue Grosbeaks and have studied all of the birds in our locality, but have never found a record of these Grosbeaks here.—GENEVIEVE ZIMMER, *Rock Island, Ills.*

Belated Evening Grosbeaks

In the July-August number of BIRD-LORE, for 1919, mention is made of a belated female Evening Grosbeak having been seen at Williamsport, Pa., on May 2 of that year.

On May 14, 1920, a pair of Evening Grosbeaks, male and female, were seen at Ulster, Bradford County, Pa., by several members of the Nature Club of that place. They remained in the vicinity for two or three days.—(MISS) MARTHA MCMORRAN, *Ulster, Pa.*

Evening Grosbeaks Like Sumac Berries

I was interested in the article concerning the staghorn sumac in the January-February issue of BIRD-LORE. I agree as to the lack of attractiveness of the berries, but would like to add that the Evening Grosbeaks do not share this feeling. They are avid devourers of them in weather fair or foul all winter. I have observed them busily eating these berries during at least more than half the days of January. From four to thirty birds will perch on the branches with an air of evident enjoy-

ment as they busily chirp and devour the seeds.—Mrs. H. W. Abraham, *Appleton, Wis.*

Bohemian Waxwing in Maine

On June 3, 1920, I was watching a small flock of Cedar Waxwings in an apple tree close by my kitchen window, when, to my surprise, I saw that one was a Bohemian. I had never seen this species before, but got the markings perfectly as it was so near. On June 19, about 5 o'clock, the Waxwings were here again, and what was my astonishment to see the Bohemian still with them!—Winifred Holway Palmer, *Machiasport, Maine.*

The Window Visitor

During the month of July, 1919, a neighbor reported to me that a Chipping Sparrow, at various hours of each day, had been rapping with its bill upon her window-panes. She had noticed the pair of 'Chippies' about the door-yard earlier in the season, but had paid little attention to them until the brighter colored of the two took it upon himself to demand attention by repeatedly rapping upon the glass. Sometimes it was from the window-sill, and often while hovering before the upper panes. On one occasion he entered the house through an open door, flew about as though looking for something, then rushed out again, to continue his window-tapping.

On being told of this strange happening, I went over to see the bird perform. The next day this Sparrow was rapping at my own windows. My efforts to entice him into the house were in vain, and neither could I find his nest or mate, yet his window-rapping continued until August 3.

On May 12 of this year I was pleased to find a pair of Chipping Sparrows building a nest in a rambler rose bush a few feet from my bay-window; but I was more pleased when on May 15 the male of this pair gave three distinct knocks with his little bill upon my window-pane. Later he continually gave his signal for attention and boldly faced my outstretched hand extended to the glass in token of welcome. Bread crumbs were placed upon the window-sill, and of these he would occasionally partake; alternating with green aphids that were beginning to multiply upon the new shoots of the rose bush.

On May 18 his mate had completed the set of four eggs, and by June 5 both parents were busy feeding their young. Yet the male still finds time each day to give a series of taps upon my window-pane, and has also visited and signaled to my neighbor across the way, his home of a year ago.—Lester W. Smith, *Meriden, Conn.*

An Adaptable Robin

A neighbor relates the following: A pair of Robins built a nest on the ledge just above her front door, which was within a colonial porch about five feet square. She was not particularly anxious to have it there, but satisfied herself by having the loose and long ends of grass and string that dangled down cut off. For a few days after that the birds did not appear, so she had the gardener take it down; but no sooner was this order obeyed than the female returned and laid an egg on the hard wooden ledge where the nest had been. She then ordered the gardener to return the nest, only to be told that he had burned it, but he knew where there was a nest of the previous year. That was secured and placed on the ledge, and the egg was placed in it. One of the birds returned, scolded much, and set to work to repair the old nest, also taking out the one egg. Later in the day another egg was laid; and since then housekeeping has gone on well.—George Roberts, Jr., *Lake Forest, Ills.*

The Warbling Vireo in Southern Rhode Island

The writer was interested in the suggestion made by Dr. Tyler in Bird-Lore that the decrease in the Vireos noted in the Boston region may be due to the spraying of the shade trees.

For the last five summers the writer has spent considerable time in Kingston, R. I. Up till the past summer, Warbling Vireos have been common in the village streets from the middle of May to the middle of September. Between 1914 and 1918 there seemed to be no marked decrease in their numbers. In 1919, however, there was a marked change. Not a single Warbling Vireo was noted, even during the spring migration. The absence was so marked that a careful watch was kept for the bird all summer and fall, with no result.

The spraying of the shade trees will not explain the absence of the bird in this case. No spraying has been done during the time mentioned.

The other birds mentioned by Dr. Tyler as decreasing—the Yellow-throated and Red-eyed Vireos, the Wood Pewee, and the Yellow Warbler—are all common in the village. The Yellow-throated Vireo was unusually abundant during the migration, and three or four pairs remained all summer. On the other hand, the Baltimore Oriole, which seems to have suffered little in the Boston region, is decreasing in southern Rhode Island. Two or three years ago the falling leaves seemed to reveal an Oriole's nest in almost every tree. This summer (1919) only one or two pairs were seen.—EDWARD H. PERKINS, *London, Canada.*

THE SEASON

XX. April 15 to June 15, 1920

BOSTON REGION.—The weather conditions during the period covered by this report have been remarkable in that there were no hot days late in April to stimulate the growth of the vegetation, and because cold weather prevailed during the greater part of May, the temperature falling nearly to 40 degrees each night until the middle of the month (May 5, 32 degrees). Consequently, the season, which had been but a little behind the average on April 15, was retarded until in mid-May it was three weeks late, the oak trees at this time being practically bare. During the summer weather which followed, however, the trees, supplied with abundant moisture, acquired full foliage in an incredibly short time.

In the first half of May there was no conspicuous, widespread movement of birds through eastern Massachusetts. Mr. E. H. Forbush informs me that "apparently many more birds were seen in the Connecticut valley this year than were seen along the coast region." Here, near the seacoast, during the period of cold weather, with backward vegetation, stragglers arrived daily; in a few individuals, representing many species, the impulse to move northward overcame the deterrents to migration. Among these stragglers the Black-throated Blue Warbler was noticeable, traveling in advance of its average time of migration. Very few White-throated Sparrows were seen during the spring, and Cedarbirds were late.

The first big flight of Warblers arrived on May 17, the first day of summer weather. The Tennessee Warbler came with this flight and was well represented in the region for the following ten days. The Orioles, arriving on May 9, a week before the apple blossoms opened, hunted for food on the ground, and were seen frequenting sweet-fern. Throughout the month of May, Purple Finches were abundant, sometimes gathered in flocks of twenty or more under hop hornbeams, and feeding on the white ash seeds which had fallen during the winter. Between May 15 and 21 the Pine Siskins passed through on their return from the south where they had been driven in February; they frequented birch trees.

The delayed spring migration extended well into June; few Cuckoos arrived before June 1, and migrating Nighthawks were seen on June 10 and 14.—WINSOR M. TYLER, M.D., *Lexington, Mass.*

New York Region.—This year the vegetation was somewhat backward and the weather noticeably cooler than usual for the season. The first and only 'wave' of arboreal transients, especially Warblers, arrived about May 10. Thereafter such species were normally numerous over the usual dates, showing little tendency to linger late, as in some years, though it was a backward season. An exception was a male Black-poll Warbler feeding quietly and in full song at Fort Lee, N. J., June 15 (C. H. Rogers).

Cuckoos were very late in arriving, and the Yellow-billed Cuckoo especially scarce. M. S. Crosby reports the Black-billed from Dutchess County up the Hudson on May 22 and Yellow-billed, June 8, the latest he has ever known these two species to arrive. Ordinarily the Yellow-billed Cuckoo is a not uncommon breeder on Long Island, being the commoner of the two there in summer, but this year the writer had neither seen nor heard an individual until June 20, although there had been abundant opportunity to do so.

At Mastic, Long Island, the Meadow-lark is decidedly decreased from its usual numbers. Here breeding Meadow-larks likely winter to a considerable extent on the extensive bay meadows, and it is feared that such birds suffered considerable mortality during the severity of the past winter. In the same locality, Bobwhites are much reduced in number, having doubtless been winter-killed. In the present spring migration White-crowned Sparrows were more nearly common than their wont, as they had been last October. The Blue-gray Gnatcatcher was much less rare than ordinarily. One seen in the Passaic Valley north of Plainfield (W. DeW. Miller and C. H. Rogers) on May 16 was the first record for that region, and others were seen in Central and Prospect Parks, New York City and Brooklyn. While the Tennessee Warbler passed through some sections in its abundance of recent years, very few Cape Mays were seen.

Along the shore there are indications of a greater abundance of Knot or Robin Snipe than in recent years. A flock of probably sixty, observed at Long Beach on May 30 by C. H. Rogers and others, is worth placing on record.—J. T. Nichols, *New York City.*

Philadelphia Region.—The temperature for April averaged normal, while the fore part of May was anything but what could be expected for that time, cold windy days prevailing.

Probably the most interesting feature of late April was the appearance of Blue-gray Gnatcatchers in unusual numbers. They were observed at several different places from April 17 until well on toward the end of the month. April 25 brought numbers of Eave Swallows. About two-thirds of the Swallows observed on that day consisted of this species. Hereabouts the Eave Swallow appears to be an uncommon spring migrant and to see the bird in numbers is rare indeed. About this time, also, Bonaparte's Gulls, which are regular migrants, though as a rule none too common, lingered about the river in dozens and twentys for a few days. On May 2, when the migration of these birds was at its height, as it seemed, about fifty of these beautiful little Gulls were seen coursing about over the river, truly an extraordinary number compared to most years. Could the persistent northwest wind which blew almost continuously for a week at about this time have anything to do with the abundance of the Swallows and Gulls? Crossbills and Evening Grosbeaks apparently departed about the middle of April. Numbers of Ducks remained on the river quite late—May 16, 6 Mergansers, 10 Black Ducks, and 20 Scaups.

While first arrivals of the Warbler migration were on time, certainly the great bulk of the birds passed through about a week late. A list of seventy-five birds observed on a canoe trip from New Lisbon, N. J., to Mt. Holly, N. J., in company with Mr. and Mrs. Nelson D. W. Pumyea, on May 9, was chiefly interesting from the standpoint of what it lacked. Warblers especially were for the most part few, and some species that should have been present under normal conditions were entirely

absent or not observed. Two noteworthy exceptions, however, were the Black and White Warbler and the Ovenbird, their notes being almost continuously in our ears during the entire day's trip. A plentiful supply of singing Goldfinches were on hand and supplied us with pleasing music throughout the day. On May 16 a short excursion afield revealed a host of Warblers present and seventeen species were observed in the short space of three hours. Apparently the peak of the Warbler migration was reached at about this time as all the more common varieties, with the exception of the uniformly late Black-Poll, were noted. The migration averaged, it seemed, about normal in numbers.—Julian K. Potter, *Camden, N. J.*

Washington Region.—The spring migration season of 1920 has been of much interest about Washington. Throughout April and May the weather continued very cool, with moderate rainfall, and the development of the vegetation was consequently very backward. These conditions were reflected in the movements of the birds, although not to the extent that might have been expected. While many birds were late in arriving and considerably prolonged their stay, many others were unusually early. The great migration movement, however, was retarded, and the migrants were present for a rather unusually long period, this and other circumstances making the spring migration as a whole somewhat peculiar.

The considerable number of early arrivals emphasized this anomalous state of affairs, as the following list of birds will show, the dates in parentheses indicating past averages of arrival: the Woodcock appeared on February 15 (March 10); Least Flycatcher, April 24 (May 2); Grasshopper Sparrow, April 17 (April 22); Indigo Bunting, April 21 (May 1); Scarlet Tanager, April 23 (April 30); Barn Swallow, April 8 (April 12); Red-eyed Vireo, April 24 (April 29); Black-throated Blue Warbler, April 23 (May 1); Chestnut-sided Warbler, April 24 (May 2); Hooded Warbler, April 24 (May 1); Worm-eating Warbler, April 25 (May 2); Parula Warbler, April 20 (April 24); Canadian Warbler, May 4 (May 8); Yellow-breasted Chat, April 24 (April 30); and Long-billed Marsh Wren, April 17 (May 1).

Two species were reported earlier than ever before: the Black-throated Green Warbler, found by B. H. Swales at Plummer Island, Md., on April 18, the previous earliest record of which is April 21, 1916; and the Blackburnian Warbler, seen by A. Wetmore at Plummer Island, Md., on April 23, which is four days earlier than its previous earliest arrival, April 27, 1913.

On the other hand, a large number of species were decidedly late in putting in their spring appearance. Among these were the Black-billed Cuckoo, Bobolink, Bank Swallow, Rough-winged Swallow, Summer Tanager, Solitary Vireo, Brown Thrasher, Blue-gray Gnatcatcher, Blue-winged Warbler, Cape May Warbler, Yellow-throated Warbler, Pine Warbler, Yellow Palm Warbler, and Louisiana Water-Thrush.

Two species were observed later in spring than in any previous year for which we have record: the Canada Goose, noted by B. H. Swales at Plummer Island, Md., on April 18, the previous latest record of which is April 13, 1913; and the Pintail, a flock of eight of which was noted also at Plummer Island, Md., by Mr. Swales, on May 2, its previous latest spring occurrence being April 17, 1915.

Other spring migrants that delayed their departure for a considerable period beyond their normal dates were the Pied-billed Grebe (seen, May 15), the Ring-billed Gull, the Rusty Blackbird, Yellow-bellied Sapsucker, Slate-colored Junco, Winter Wren, Olive-backed Thrush, Blackburnian Warbler, Yellow Palm Warbler, Canadian Warbler, Purple Finch, seen on May 20 (average date of departure May 8), and Ruby-crowned Kinglet, noted May 15 (usual date of departure May 4).

A few species of somewhat uncommon occurrence about Washington have been reported during the present spring season. A Horned Grebe was seen by Mrs. Aspinwall at the Sixteenth Street City Reservoir on the outskirts of the city of Washington

on April 23, and on several previous dates. A flock of seven or eight Loons, also two others, flying northward over Washington, were seen by E. A. Preble on May 2. The species was noted on other occasions, principally on the Potomac River, up to May 4. The Olive-sided Flycatcher, which is of very irregular occurrence in this vicinity, was twice observed during this spring—one individual on May 16, by E. A. Preble, near the Bureau of Standards in Washington; and one, May 22, by Miss M. T. Cooke, at Prospect Hill, Va. The White-crowned Sparrow, another rare bird here, was found by Miss M. T. Cooke, at Prospect Hill, Va., on May 2, and by F. C. Lincoln in the Zoölogical Park of Washington, on May 15. The Bachman Sparrow, which has not been reported for two years in this region, was seen by L. D. Miner near Black Pond, Va., along the Potomac near the mouth of Difficult Run, on May 22. A Lincoln Sparrow was seen in the writer's dooryard in the city of Washington, on May 10.

Not only was the total number of birds present during the height of the migration large, but some species were unusually abundant. Both the Bonaparte Gull and the Ring-billed Gull were present in large numbers on the Potomac River, and well distributed as far up as Washington; while the Loon was seen more frequently than usual. The Scarlet Tanager and Baltimore Oriole were, in certain favorable localities, very numerous; and the Indigo Bunting was both abundant and widely distributed. Rarely ever have we seen here greater numbers of the Purple Finch than were present during the present spring, and their delightfully melodious songs were everywhere to be heard.—HARRY C. OBERHOLSER, *Biological Survey, Washington, D. C.*

OBERLIN REGION.—The migration season opened on February 22, when Robins, Bluebirds, and Killdeers arrived. There was no further movement until March 2, when a marked increase in numbers of Crows and Song Sparrows was noted. Meadowlarks and Red-winged Blackbirds came on the 9th, Wild Geese and Cowbirds on the 10th. On the 15th Bronzed Grackles came in force, and on the 16th a single Field Sparrow was heard singing.

On the 18th, Mourning Doves and Migrant Shrikes came, and on the 19th four Redheads visited our water-works reservoir. On the 21st a flock of Rusty Blackbirds, Phœbe, Turkey Vultures, and Lesser Scaup Ducks arrived; and on the 23d two Belted Kingfishers; on the 24th Vesper and White-throated Sparrows; on the 25th Fox Sparrows and Brown Thrashers. There was nothing new on the 26th, but on the 27th Chipping Sparrows, Buffleheads, and Tree Swallows came. Yellow-bellied Sapsucker and Bittern came on the 30th, and Purple Martins on the 31st. Thus there was no well-marked movement in March. This was probably due to the lack of any weather which would induce migration waves involving many species.

In April marked waves occurred on the 3d and 4th, 11th and 12th, and 22d and 23d. These waves were coincident with marked warm waves of weather. The weather for April was rather more than usually mild, but with temperatures somewhat below 32 degrees at night, except during the three periods mentioned above.

There was a small but distinct wave of migration on May 2 and 3, but after that cold and wet weather prevailed until the 13th. During this period birds dribbled in in a sort of half-hearted apologetic manner, and most of them were sorry that they had come. It was not until the third week of May that there was any distinct Warbler movement, and then the species were represented by fewer individuals than usual. This delayed movement resulted in later records for stragglers than usual. The last tarried into the first week of June.

It should also be noted that vegetation was exceptionally backward. Most of the trees which put out their leaves late were nearly bare of leaves on the first day of June. Insects were scarce during the brief stay of the Warblers.

The past migration season has fully demonstrated that temperature is a potent factor in the northward migration of the

birds, as Prof. Wells W. Cooke so often claimed.—LYNDS JONES, *Oberlin, Ohio.*

MINNEAPOLIS (MINNESOTA) REGION.—The weather during the latter half of April continued cool with very little of the feeling of spring in the air. Raw, cold, northwest winds prevailed. The ice disappeared from the larger lakes during the third week of the month.

With the coming of May, spring made itself felt in real earnest for the first time this season. During the first three weeks there were many warm, beautiful days, with only occasional brief intervals of cool, raw, east-wind weather; and the month closed with a hot, midsummer-like week which forced forward all the tardy vegetation at such a pace that it quickly caught up with the usual seasonable development.

The first few days of June were cool, with northwest winds, but this was succeeded by a week of excessively and abnormally hot weather with maximum temperatures on several days of over 90 degrees.

Considerable rain has fallen at intervals during the past two months, and this, together with the melting of the deep snows of last winter, has caused the streams, lakes, and marshes to be well filled.

In spite of the inclement weather and late arrival of settled spring conditions, the bird migration was not especially delayed. Most species came about the usual time and a few were even in advance of their average dates. The number of individuals was well up to the representation of recent years in most instances, and viewing the reports of all observers together, it would appear that the full list of regular possibilities was seen. The later Warbler migration exhibited an unusual peculiarity, judging from the experience of the writer. Instead of coming in evenly distributed 'waves,' they seemed to be assembled in mixed flocks which drifted about very much in the manner of the fall movement. Thus, an observer who encountered one of these aggregations would have a rich return, while another less fortunate on the same date would have but a scanty list to show.

The dates of arrival and nesting of a few species will suffice to indicate the progress of the season:

April 15. Brewer's Blackbirds.
April 17. First Myrtle Warblers (Thayer).
April 18. Robin began building nest; eggs on the 24th (Mrs. Lathrop).
April 20. A female Sapsucker feeding as usual in the early spring among the topmost twigs of poplars.
April 24. Elm and poplar trees in full bloom.
April 29. Yellow-headed Blackbirds, many males; one Orange-crowned Warbler; Double-crested Cormorant, a migrating flock of fifty.
April 30. Horned Grebes (4).
May 2. Blue Jay sitting, four eggs; many Ruby-crowned Kinglets and White-throated Sparrows; Rough-winged Swallows nesting.
May 4. First Veery.
May 6. Baltimore Oriole (Mrs. Albee), Rose-breasted Grosbeak, Wood and Olive-backed Thrushes, Black and White, Tennessee and Palm Warblers, Grinnell's Water-Thrush, Black Terns.
May 8. Bellwort, Wood Anemone and Three-flowered Geum just coming into bloom. Clay-colored Sparrow, Florida Gallinule.
May 9. White-crowned Sparrow, Warbling Vireo, Yellow Warbler, Gray-cheeked Thrush.
May 11. Oak trees just coming into bloom. Least Flycatchers, Scarlet Tanager, Harris's Sparrow, Blackburnian and Pine Warblers, many Blue-headed Vireos, Ovenbird.
May 12. Kingbird, Chestnut-sided and Bay-breasted Warblers, Maryland Yellow-throat, Redstart, vast numbers of Myrtle Warblers, Sapsucker excavating nesting-hole, Bank Swallows nesting.
May 13. Catbird, Philadelphia Vireo.
May 16. Twenty-two Robins' nests *found* on a twenty-acre tract about the summer home of Mr. and Mrs. Commons at Lake Minnetonka; nearly all had young. Yellow Warbler building.
May 19. Nest of Lark Finch; fresh eggs.

May 20. Completed nest of Rose-breasted Grosbeak.
May 31. Nest of Brown Thrasher *on ground*, 4 eggs. Flock of 20 to 25 Lesser Yellow-legs and one Least Sandpiper.
June 2. Nest of Black-billed Cuckoo; 4 eggs.
June 3. Nest of Migrant Shrike; young three-fourths grown.
June 7. A male Wilson's Phalarope.
June 12. Cuckoo's eggs found on 2d; just hatched; all came out about same time.

The almost complete absence of Horned Larks in this locality noted in recent years still continues. During an automobile ride of 160 miles on April 29 and 30, through ideal Horned Lark Country, the writer saw only a single pair—50 miles west of Minneapolis—when in former times they would have been seen all along the route. Savannah and Grasshopper Sparrows and Clay-colored Sparrows are also becoming less numerous. No Dickcissels have been seen in this vicinity for several years; they were formerly abundant in suitable localities. The scarcity of Loons this spring has been a matter of comment.

The Pileated Woodpecker is being reported with increasing frequency from heavily timbered areas hereabouts. It is apparently slowly reëstablishing itself after having been nearly exterminated by thoughtless gunners.

On May 24 a flock of a dozen Cedar Waxwings was seen eating the central portions of the flowers of a large apple tree, all the blossoms of which had previously been denuded of their petals by these same birds. They had confined their depredations to a single tree which in consequence had a bare, blighted appearance among its full-flowered neighbors. I have at times seen the Waxwings tearing off the petals of fruit blossoms but never before have seen them make such a complete wreck of a single tree.

On June 5, while out with the Bird Class, we discovered a Mourning Dove sitting on a this-year's Robin's nest in a small shade tree beside the entrance driveway to a country residence. Investigation revealed two recently hatched young Doves in the bottom of the deep, apparently previously unoccupied Robin's nest! It must have been difficult for the parents to feed their young in the manner peculiar to their kind in the bottom of this deep cup. The thought occurs to one whether this pair of Doves will be satisfied hereafter with the flimsy, flat structure which inherited instinct has inflicted upon them in the past, after having experienced the advantages of such a solid and secure domicile.—THOMAS S. ROBERTS, *Zoölogical Museum, University of Minnesota, Minneapolis.*

KANSAS CITY REGION.—Water-fowl, mostly Pintails and Mallards, began migrating in earnest on March 5, and by the 9th, when the Missouri River was full of mush ice, Ducks and Geese were passing this point in some numbers. By the 18th there was a lull in the flight, when the first flocks of Scaup Ducks began dropping into the river, busy as usual at this time of the year with their mating antics. These small troops were followed during the next ten days by the annual north-bound procession, fortunately still increasing, of Green-winged Teal, Redheads, Widgeon, Gadwall, Ruddy Ducks, Shovellers, and Wood Ducks. Pied-billed Grebes and Coots were seen on March 26, and on April 8, when the Blue-wings first appeared in any numbers, another heavy flight of Ducks and Geese was recorded. Wilson's Snipe, Franklin's and Ring-billed Gulls, with a few large Terns, were noted during the next three days. At this time immense hordes of Coots arrived, blackening the river with rafts of tens of thousands of resting birds. The abolition of spring shooting is evidenced in a very striking manner, locally at least, by the astonishing increase in the numbers of this species. Mr. William Andrews, of Courtney, is keeping a careful record of the movements of all water-birds through here that will in time be a valuable mass of data for reference.

The first House Wren, Wood Pewee, Chestnut-sided Warbler, and Herring Gull were reported on April 14, and on the 17th, when the House Wrens were on their breeding stands in full song, passing troops

of Hermit Thrushes were uttering their subdued *chuck* from every wooded place. A flock of about 35 Purple Finches that have been under observation all winter in a secluded wood were found on this date in full song. This is the first known local record of the singing of this bird. On the 20th a few Willets and Greater Yellow-legs, with a single Golden Plover, were seen on a bar in the Missouri River, and on the same date a large flock of Redheads, with a few Canvasbacks, were reported. On the 21st Green Herons and Bank Swallows arrived in numbers, and the last of the Hermit Thrushes were seen. By the 23d Harris's Sparrows were everywhere, even in city yards and along the boulevards, in strange contrast to their scarcity of the past few seasons. Lark Sparrows were heard singing for the first time this year, and the arrival of the Crested Flycatcher and Kingbird was noted. Among the Warblers seen or heard on this date were the Sycamore, Cerulean, Black-throated Green, Parula, and Black and White. Two nearly completed Blue-Gray Gnatcatcher nests were found in bare trees, and a Bluebird's nest containing four eggs was found. A flight of about 2,000 Barn Swallows was noted on the 24th, and on this day the first Red-eyed, White-eyed and Yellow-throated Vireos were heard. Redstarts arrived, a few late Fox Sparrows were heard singing, and five Upland Plover were seen within the city limits. Not until the 27th did the Catbird arrive, unusually late for this region. The Baltimore Oriole and Rose-breasted Grosbeak arrived on the 28th, and a large flight of Ducks was reported from Courtney. Unusual numbers of Blue-winged Teal, Shoveller, and Gadwall, with a few late Mallards and Pintails were seen. Grasshopper and Savannah Sparrows were common on the 29th, and the first Orange-crowned Warblers, Summer Tanagers, and Maryland Yellow-throats arrived. A Bittern was flushed from a rocky ledge in deep woods, recalling the characteristic trait of this species when on migration to fly straight over the country irrespective of water-courses.

Unlike last year at this time, when vegetation was out in full, only a trace of green was to be seen in the low vegetation in early May, and the woods had more the aspect of winter. It seemed strange, and was indeed most unusual, to see parading through the bare woods such species as the Vireos, Flycatchers, Orioles, and Warblers. Fortunately, insect food was abundant, and all nature seemed normal save the leafless trees.

The unusual throngs of Harris's Sparrows everywhere present in this region this spring have afforded abundant opportunity to study and attempt to record their varied songs and call-notes. First, there is a high-pitched, wavering whistle, sometimes delivered sharply and without a quaver, followed usually by a minor note either up or down the scale, though more often up. When several birds are thus whistling in concert, each individual may take a different pitch, or several may be on the same pitch, but the ensemble gives an impression of querulous minors most unusual among birds and most delightful to hear. There may be one note with no following minor, or there may be one, two, three, or four notes following in the same pitch, as indicated by Nuttall; but I have never heard five. Then there is a grating, burring whistle followed by a series of low, guttural, rattling notes impossible to render in words. There is also a very musical, low, sweet song, conversational in quality, which is also preceded by a burst of characteristic whistling, often of a chuckling nature. The familiar alarm note is a metallic *zink* of rather coarse timbre, and sometimes quite rasping, but always with a cheerful ring. The Sparrow *tsep*, so often heard in winter, is sometimes indistinguishable from that of several others of the group, but is again delivered in a loud and sharp manner characteristic of this species alone. On the whole, the vocal performance of this bird is altogether delightful, and well worth going a long way to hear.

On May 2 the bottom timber along the Missouri River was found to be swarming with newly arrived Sparrows, Warblers, and other migrants. The bluffs and farming regions beyond were also prolific of

interesting records. Seventeen species of Sparrows, six Vireos, and eighteen Warblers were identified, a total of 107 species being seen or heard. On the next night a terrific hail-storm did much damage to bird-life in the Swope Park region. Dead and crippled birds of eight species were found by the dozens, and 18 out of a total of 21 Blue-gray Gnatcatcher nests were found to be either damaged or destroyed by the large hail-stones.

The first wave of migrating Warblers invaded the city parks and boulevards on May 4, on which date the first Nighthawks were seen. As late as the beginning of the second week in May the deeper woods were still bare and leafless. On the 9th a male Prairie Horned Lark was performing his flight-song and high dive to earth, probably celebrating a second courtship. Breeding Western Meadowlarks were heard singing in the same field with the Eastern species, and a nest of Killdeers containing three eggs was found at the edge of a golf course within the city limits. Not until May 13 did the Yellow-billed Cuckoo put in an appearance, and as late as June 10 only a few individuals have been seen. Migrant Thrushes and Harris's Sparrows in small numbers were still present on May 16, which is exceptionally late for this region. Tennessee Warblers were still numerous on the 22d, though by no means as abundant as at this time last year when the canker worms were a plague. Blue Grosbeaks at last seem to have established themselves in this neighborhood, as two nests have been found and a third pair seen.

A unique record for this region has recently been established by Clark Salyer, of Lexington, Mo., who took a specimen of Green-tailed Towhee on March 12. This adds a new species to the state list, under the head of accidental visitant. A box of specimens received from this enthusiastic student contained also such locally rare species as Woodcock, Smith's Longspur, Brewer's Blackbird, and Bewick's Wren.

It is regretted that lack of space prevents a more detailed enumeration of interesting data accumulated here this spring.—HARRY HARRIS, *Kansas City, Mo.*

DENVER REGION.—The week preceding April 17 was mild, and the 16th a clear, warm, delightful day, giving promise of bringing north many birds. Many had already returned from the south, seed-eaters, as well as insectivorous kinds, a good many Say's Phœbes and Lark Buntings being in evidence up to the 17th, when a severe snowstorm broke over a goodly part of Colorado, and western Kansas and Nebraska. Evidently a heavy wave of migrating Robins was in action when this blizzard struck the state, for immediately after it ceased, thousands and thousands of Robins appeared in the city and its environs and lingered thereabouts until April 27, when the bulk left and our usual summer quota only remained. Similar haltings of migrations have been noted in this region a good many times by the writer in the past quarter of a century. It was quite evident that Robins and birds with similar food habits did not fare badly after the storm, since an accommodating wind drifted the snow and left extensive areas uncovered in which these birds were able to find food. But the Flycatchers and Swallows must have been pressed hard for a living. This storm also seemed to concentrate in this region many Sparrow Hawks, Killdeers, and Bluebill Ducks, fifteen of the last having been seen in one of our park lakes on April 22. It may have been the cause also, of a visit to the city by a Ring-billed Gull on April 24; this is the first time the writer has seen this Gull within the limits of Denver. There is no doubt in his mind but that this storm and its subsequent weather consequences held Juncos here two weeks or more beyond their usual time of departure. Thus Shufeldt's was seen on April 27, the Pink-sided on May 1, and the Gray-headed on May 13, all dates very late for these Juncos.

The Pine Siskin usually comes back to us early in March, but this year its first appearance is recorded as being of May 6; the Warblers seem not to have been disturbed by our unseasonable April weather. Perhaps the snowstorm and blizzard did not extend south far enough to slow their

northward travel, and by the time the advance guard reached this region, the local cold conditions had ceased. Audubon's Warbler came about on time, to wit, April 27, when three were seen, and it was noted daily thereafter until May 6, when a single Myrtle Warbler was also noticed. An Orange-crowned Warbler was seen on April 29, a MacGillivray Warbler on several days between May 1 and 17, and a Pileolated Warbler on May 14. Evidently the weather and food conditions were propitious for these small insect-feeding species for the Yellow-throat and the Ruby-crowned Kinglet were seen about the same time (May 15 and 16). The writer has the impression that a good many unusual birds penetrated into the heart of the city during the migration just past, as, for example, the Yellow-throat. This season has demonstrated once more how much regular and systematic search and observation have to do with the length of the list of migrants seen by any particular observer. It is a number of years since the writer has been able to get out as regularly each day as he has this year, and more migrants have been noted within Denver and its immediate neighborhood than for several years past.

The Evening Grosbeaks remained hereabouts at least until May 27, when several were studied in Washington Park. The Nighthawk came about on time (May 28), but in noticeably smaller numbers, and it now seems more scarce about Denver than for several years. Red-headed Woodpeckers arrived in this region during the third week of May, which is a normal arrival date; this species ordinarily infiltrates the area quite slowly, yet this year it seemed to have arrived all over at the same time.

The writer saw more White-crowned Sparrows here this spring than ever before; there were easily ten White-crowns to one Gambel's Sparrow, while ordinarily this ratio is reversed. These Sparrows were at least a week late in arriving in Denver. Poorwills were first noted here on May 9 and 11, five having been seen on the latter date in one of our parks. It is of interest to call attention to the fact that this species spends its summers in the mountains, evidently enjoying a cool climate, while its congener, the Nighthawk, is more common on the plains, or warmer areas in the 'hills.' The two seem to arrive hereabouts according to these predilections, the Poorwill earlier in cool weather, and the Nighthawk later when the weather is much warmer.

There have been no Lazuli Buntings in the area this spring, according to the writer's notes.—W. H. Bergtold, *Denver, Colo.*

San Francisco Region.—Except for the continued presence of a few Golden-crowned Sparrows that had not yet completed the spring moult, the readjustment of bird-life in the San Francisco region was practically complete by May 1. There are often Western Tanagers and belated Cedar Waxwings waiting for a taste of the cherry crop, but the other species of land-birds are enthusiastically preparing for the coming families, if they are not already busily providing for their needs.

Varied Robins, though reported in the last issue as missing, were seen again on April 16, this reappearance being due perhaps to the arrival of migrants passing through from the south. Sierra Crossbills remained in Golden Gate Park until April 20 at least, and on the same date Red-breasted Nuthatches and Myrtle Warblers were still present and Violet Green Swallows were passing through.

In the Berkeley hills, Hermit Thrushes were seen until April 26, and on the next day a Russet-backed Thrush was heard for the first time. Fox Sparrows were gone on the 24th, having remained somewhat later than the Ruby-crowned Kinglets, Audubon Warblers, and Juncos.

The summer visitants in the meantime had been coming in in about their usual order. Black-headed Grosbeaks were heard for the first time on April 16; the Yellow Warbler, April 20, Tolmie Warbler, April 23; and the Lazuli Bunting, April 26. The Bullock Oriole was seen in Alameda on April 27, the Olive-sided Flycatcher and

the Chipping Sparrow in Berkeley on April 30, but all three of these may very likely have arrived earlier, as they are rare enough to easily escape notice.

The transients were augmented this year by the presence of Western Evening Grosbeaks, which were seen on April 28 and May 5. On the former date a flock of fifteen or twenty were feeding in the live oaks in a Berkeley cañon, and, on the latter, one or two were still present in the same tree, at which time there was also a Long-tailed Chat, a bird common enough on the other side of the hills, but seldom recorded in Berkeley. Rufous Hummingbirds were present in numbers for ten days in the middle of the month, the largest aggregation being seen on April 16. Western Tanagers were seen on April 28.

April 27 was spent among the migrant shorebirds at Bay Farm Island, when three kinds of Sandpipers (Least, Western, and Red-backed) were seen; also four Plovers (Killdeer, Snowy, Semi-palmated, and Black-bellied). In addition to these, there were Sanderling, Hudsonian Curlew, Marbled Godwits, Western Willets, and Long-billed Dowitchers. On April 20 several nests of the Coot were found in Golden Gate Park, and one family with three babies, still in autumn leaf plumage, were happily feeding on North Lake. On Stow Lake, a Common Loon gave a fine exhibition of fancy diving.

Since the middle of May, observations have been confined to the Redwood region on the western slope of the Santa Cruz Mountains. The spring had been colder than usual, according to report, but in spite of that, many of the characteristic birds of the region had families of young already on the wing. Point Pinos Juncos, Santa Cruz Chickadees, and Tawny Creepers, all with plumage modified to match the bark of redwood and madroña, were among these early nesters. The usual birds ascribed to the region have been located and many of them have been found abundant. One would suppose that a region of such luxuriant growth would provide abundantly for its bird population. Let us hope also that the presence of abundant bird-life will make possible a continuance of luxuriant forestation.—Amelia S. Allen, *Berkeley, Calif.*

San Diego Region.—April and May find the bird observer's interest at the highest pitch in southern California, as elsewhere. Some winter visitants seemed loath to leave, the Varied Thrush being recorded as late as April 5, while the Blue-fronted Jay, noted on May 19, has possibly become a resident of the low foothills.

A trip into a part of the San Fernando valley where natural desert conditions still prevail resulted in finding the new nests of six pairs of Cactus Wren on April 5. Several pairs of Black-tailed Gnatcatchers were also found in the midst of the dense junipers. Rufous (Allen) Hummingbirds were numerous, and the Gambel and Golden-crowned Sparrows very abundant and in full song. The first absence of Gambel Sparrow was noted April 19, when their songs were missed from the morning chorus. On the 20th others arrived, presumably from farther south, dropping into gardens where water and food were provided, to remain a few days only. This continued through the remainder of the month, and a few stragglers came along well into May. Golden-crowns came in in the same manner, after the main body of birds had gone, wearing very handsome plumage and singing with an intensity of piercing sweetness and plaintiveness.

Among the Warblers, the Townsend, which wintered here in small numbers, was absent from most of the spring lists—a single bird appearing upon a few of the later dates. The Calaveras and the Hermit were apparently more than usually numerous. The Long-tailed Chat was observed in a number of unusual locations, spending a few days in the gardens of three different Audubon members where food and water are always accessible and shrubbery abundant. Western Tanagers, first noted April 19, were fairly common through the first week of May. Lazuli Buntings, first reported April 14, are abundant and apparently nesting along willow-bordered streams and in the mountains.

Russet-backed Thrushes were in song in many city gardens from late April to the middle of May. Vireos and Flycatchers arrived on schedule time. Western Martins occupied the same nesting-sites in Balboa, Long Beach, Whittier, and Pasadena, where they have bred for some years. Western Blue Grosbeaks were again reported April 23 and May 16. Rough-winged Swallows were seen in the vicinity of their former nesting-place April 23.

A Townsend Solitaire was seen on April 23. April 27 furnished latest record of a Hermit Thrush, the Russet-back being then present in full numbers. On the same date one Monterey Thrush was recorded, seen in Millard Cañon, Pasadena. On that date many Black-chinned Hummingbirds were found nesting.

A few trips have been made to the shore and the inland sloughs during the spring. On May 1 Eared Grebes, wearing their nuptial plumes, were seen in the canals back of Playa del Rey. A flock of about thirty-five Black-necked Stilts remained about the flats of the lagoon there through the latter part of April and early May. Black-bellied Plover in full summer plumage were seen there on May 1 and 11. The waders were at that date few in numbers, but the common species were about all present. Marbled Godwits, Long-billed and Hudsonian Curlew, Yellow-legs and Willet were noted, together with Semipalmated Plover, Sanderling, Red-backed, Least and Western Sandpipers, and vast flocks of Forster's Terns. Least Terns were there in smaller numbers, and over on the sea beach little Snowy Plover ran about, or rested on the upper beach. California and Ring-billed Gulls, abundant in winter and occasional in summer, were still present in small numbers, while of the few remaining Bonapartes but one wore the black head of the breeding bird.

A visit on April 21 to that famed resort of water-birds, Nigger Slough, now reduced to a mere fraction of its former area, discovered Avocets, Stilts, and Long-billed Dowitchers, together with many Ducks, including seven of the Fulvous Tree-Duck, which have been noted also on several later dates and likely are nesting there. Several White-faced Glossy Ibis, another species formerly common there but now only an occasional visitor, were noted on April 12. A single Northern Phalarope was also observed on that date, and again on May 24. This same locality in late May, 1918, fed thousands of these dainty swimmers. Red-winged, Tri-colored and Yellow-headed Blackbirds were all feeding well-fledged young, out of nests, on the 24th, which date also recorded ten White Pelicans, doubtless non-breeders.

Western Bluebirds coming daily to an Audubon member's table and carrying away food on and after May 16 is good evidence of a nest somewhere near—not a common occurrence in this locality.—L. E. Wyman, *Los Angeles, Calif.*

Book News and Reviews

Bird Behaviour, Psychical and Physiological. By Frank Finn. Dodd, Mead & Co., New York. 12mo, x + 363 pages; 44 half-tones.

Here is a book which will interest and inform both what we may call 'generalists' as well as specialists, while the latter will find in it a mass of stimulating and suggestive material.

To his own extended observations on birds in nature and in captivity, Mr. Finn adds a wide knowledge of pertinent literature, and this he brings to bear on the subjective consideration of various phases of bird-life.

Birds' means of locomotion, their food and feeding-habits, their nests, eggs, and young, their migrations, senses, voice, relations with man, etc., are discussed in a manner which, as we have said, will hold the attention of the average reader as well as appeal to the philosophic naturalist.—F. M. C.

Water-fowl and Their Food Plants in the Sandhill Region of Nebraska. Part I. Water-fowl in Nebraska. By Harry C. Oberholser. Part II. Wild Duck Foods of the Sandhill Region of Nebraska. By W. L. McAtee. Bull. No. 794, U. S. Dept. of Agriculture, Washington, March 23, 1920. 8vo, 79 pages, 1 map. For sale by Supt. of Documents, Washington, D. C., price 15 cents.

The farmer and ranchman, as well as the sportsman, seem destined to be the foe of wild fowl, and the former, in seeking new areas for his crops and herds, is possibly more destructive in the end than the latter with his firearms. The Biological Survey, in addition to its duties in enforcing the Federal Laws for the protection of migratory water-fowl, is therefore conducting a study of the breeding- as well as the wintering- and hunting-grounds of these birds, and the present paper is the first of a series it is proposed to issue on this subject.

Dr. Oberholser, who visited the region in question in June and October, presents a report on its general characters as a home for wild fowl, on the increase in the numbers of these birds since the Federal Law has become effective, and a fully annotated list of the fifty-six species of water-birds known from the area under consideration.

Mr. McAtee gives a report on the plants of the lakes, based on collections and observations of Ray Thompson, and notes especially those which are of value as food for wild Ducks. The combined results of the labors of these two experts, with those of their various coöperators, makes a practical contribution to the subject at issue which should have wide circulation.

If for purposes of exact identification it is deemed essential in papers of this character to supplement the common with a scientific name, why not use an available system of nomenclature to which the ordinary reader can refer with some hope of securing the information of which he is in search, rather than names which are known only to professional ornithologists? Intelligibility, rather technical up-to-dateness is assuredly the end in view, and this, it seems to us, is to be gained by employing a standard, if ancient, nomenclature rather than one which, if the English name fails, would certainly, in some instances, be of no assistance to the most of the persons for whom these valuable studies are made. —F. M. C.

Birds Observed on the Florida Keys and the Southern End of the Mainland of Florida in 1919. By Paul Bartsch. Year Book No. 18, for 1919, of the Carnegie Institution of Washington; pages 205–210.

While prosecuting his study of cerions in the Florida Keys, Dr. Bartsch has found time to make casual observations on birds, and he here gives us his journal entries for Dec. 28–31, 1918, Jan. 1–22, and May 2–19, 1919. Among the ninety-odd species recorded are the Red-throated Loon, Blue-faced and Blue-footed Boobies, Scis-

sor-tailed and Arkansas Flycatchers and an as yet undescribed form of the Clapper Rail. All the Yellow-throats (*Geothlypis trichas*) observed, including a "remarkable flight" of thousands of migrants on Sand Key and other unquestionable migrants in the Tortugas, are referred to the southern form (*G. t. ignota*), though it is more than probable that some, if not most, of them were the northern race.—F. M. C.

ABSTRACT OF THE PROCEEDINGS OF THE LINNÆAN SOCIETY OF NEW YORK, for the year ending March 11, 1919; containing BIRD-BANDING BY MEANS OF SYSTEMATIC TRAPPING, by S. PRENTISS BALDWIN. Date of issue, Dec. 23, 1919. Published by the Society, at the American Museum of Natural History, New York City. 65 pages; vii plates.

The first twenty-two pages of this annual contain reports of the fifteen meetings of the Linnæan Society held during the year. Besides brief summaries of the fourteen papers, chiefly on birds, presented before the Society, there is a large number of records and notes on the birds of the country about New York City, of considerable interest, especially to the bird-students of that region.

One of the questions most frequently asked of ornithologists is, 'How long do birds live?' Data on this subject are exceedingly hard to obtain, owing to the obvious difficulty of keeping track of a wild bird throughout its life, and to the unnatural conditions surrounding a captive bird. This, however, is but one of the many questions on which much light will eventually be shed by bird-banding, as is called the marking or ringing of birds with a numbered aluminum band placed around the foot. Heretofore, this has been done chiefly with nestlings and chance-caught adults, trusting almost entirely to luck for ever again laying hands on the band.

Mr. Baldwin's paper revolutionizes this work. His experiences with his own ingenious methods, detailed in thirty-five pages, show that it is entirely practicable to trap birds in large numbers, to handle the same individual for several years, sometimes even several times a day for weeks, and thus to learn many facts of interest concerning longevity, individual temperament, return to the same summer and winter haunts and way-stations on migration, narrowness of individual winter range (as a flock of White-throated Sparrows within a 100-yard radius), etc. The fourteen excellent photographs illustrate the nature and locations of Mr. Baldwin's traps and the very important methods of holding a wild bird without injury to it. Reprints of this article may be obtained from the United States Biological Survey at Washington, which has taken over the supervision of bird-banding on this continent. (See BIRD-LORE, Vol. XXII, 1920, May-June, p. 157.)

A list of the 116 members of the Linnæan Society and an index to this issue of the 'Abstract,' complete the issue.—C. H. R.

SECOND TEN-YEAR INDEX TO THE CONDOR. Vols. XI–XX, 1909–1918. By J. R. PEMBERTON, Hollywood, Calif. Published by the Cooper Ornithological Club, Aug. 15, 1919. 92 pages. Price $3.

Everyone possessing the last ten volumes of *The Condor* should also have a copy of this Index to them, and, even without the volumes to which it refers, the Index alone, with its annotations, makes a valuable work of reference. Mr. Pemberton deserves the thanks of all working ornithologists for the thoroughness with which he has performed this 'labor of love.'

In this connection it is interesting to note that every issue of *The Condor* contained in the ten volumes in question has been reviewed in BIRD-LORE, and we trust has thereby been brought to the attention of many bird-students outside the ranks of the Cooper Club.—F. M. C.

Book News

The New York Zoölogical Society publishes in 'Zoölogica' for April, 1920, an exceptionally interesting article on the courtship of the Sage Grouse with pen and ink sketches, and a full-page colored plate showing the remarkable poses assumed by the male in the mating season.

Bird-Lore

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Devoted to the Study and Protection of Birds
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Bird-Lore's Motto:
A Bird in the Bush Is Worth Two in the Hand

ALTHOUGH, for the past ten years, ill-health prevented William Dutcher from entertaining even the slightest hope of taking part in the work of the National Association of Audubon Societies, he was so closely identified with the origin and growth of this organization that annually during these ten years he was unanimously re-elected to its presidency. Even now that he has 'crossed the Great Divide' his personality, to those who knew him, will remain a vital part of the movement to which he gave his life, while his name will ever be honored by all lovers of birds.

Mr. Dutcher was a pioneer in the movement for bird-protection, and it may with truth be said that of the hundreds of humane and far-sighted people who have espoused this cause, no one gave himself to it more fully, freely, and ardently than did William Dutcher. For a quarter of a century he devoted every moment that could be spared from the exacting demands of New York business life to the labors which were so near his heart. Convinced of the need for and importance of bird-protection, and of the incalculable value of birds to man, he labored with an earnestness, enthusiasm, unselfishness, sincerity, and sound judgment that won their just reward, and it is due chiefly to William Dutcher that American birds now have legal rights such as are not enjoyed by the feathered citizens of any other country.

WE have long known that birds return to the same locality, the same nesting-site, and even the same nest year after year, but it is only recently that we have learned they may also pass the winter in the same place during successive seasons. Impelled by the impulses of the breeding season, we have believed that a desire to return to the nesting-ground has been stimulated and directed by what we term 'love of home,' but now we learn, through the researches of Mr. Baldwin (of which mention is made on a preceding page), that a bird may journey across the United States to winter each year in and near a particular thicket. Mr. Baldwin's methods offer a most inviting and promising field for research. Now that the work of bird-banding has been taken over by the Biological Survey, we trust that it will receive a new impetus. Doubtless in time data will be secured which will enable us to answer the frequently asked question, "What becomes of the young bird?" The assumption is that it returns to the scene of its birth, and with birds having a restricted range, as, for example, an island, we know this to be the truth. But when year after year we see birds successfully rear their young without apparent increase in the number of the species, the fate of the young becomes a matter of increasing interest to us.

We can all recall a pair of Phœbes which for many successive years have built in exactly or essentially the same locality, and launched their family into the world without additional pairs of Phœbes building near the old nest-site the following year. Or it may be a colony of Barn Swallows which for generations has contained approximately the same number of nests, although each family of two may number five or six at the end of the nesting season. Do the young as well as old return to the same hospitable shelter, and are birth-rate and death-rate so evenly balanced that the species just holds its own? Bird-banding may tell us, and we therefore commend Mr. Baldwin's important paper to those who are interested in this subject.

The Audubon Societies

SCHOOL DEPARTMENT

Edited by A. A. ALLEN, Ph.D.

Address all communications relative to the work of this department to the Editor, Cornell University, Ithaca, N. Y.

STUDYING BIRDS' EGGS

To one who has any appreciation of the beauties of nature, the eggs of birds will always make their appeal. Whether it is the unthinking schoolboy intent only upon making a collection of all unusual objects, or the most experienced naturalist, the discovery of a bird's nest containing its quota of delicately tinted eggs brings a thrill that is long remembered. It is little wonder that the ordinary child longs to possess them, and, when not properly directed, accumulates a drawerful of meaningless treasures which, with lack of care, soon lose their beauty and fascination.

The majority of teachers hesitate to indulge in a discussion of birds' eggs for fear it will stimulate the latent enthusiasm of their children into making collections, with resulting destruction to bird-life. They know how little encouragement the 'collecting instinct' needs to send it rampant throughout the school, and they therefore pass over the subject of birds' eggs with the admonition, "you must not touch," "it is against the law," or some other phrase intended to destroy interest. This is to be commended if the teacher feels that he is unable to control the activities of his children. On the other hand, there are few of the older ornithologists living today, men who are doing the most for the protection of birds, whose interest did not begin with the making of a collection of birds' eggs. The use of the field-glass and the observation blind for watching birds, and of the camera for recording one's observations is comparatively recent, and the present generation of bird students, in their youth, required other means of gratifying that instinct to possess and to pass on to others the results of their discoveries.

In making their collections of birds' eggs, these older ornithologists gained an intimacy with the lives of birds which the majority of field-glass students today fail to get, and they had open to them a resource, an outdoor hobby, comparable only with that of the bird photographer today. Of course, in collecting the eggs which they discovered, they destroyed the possibilities for further study of the pair of birds which they robbed, but the bird-watching and the nest-hunting that were necessary to the making of extensive collections brought to them a knowledge of birds and their ways that is greatly to be envied.

It is not the writer's belief that children should be encouraged to make collections of birds' eggs. Quite the contrary. But he does believe that the subject should not be shunned as though it were dangerous or forbidden

ground, or dismissed as though of little interest. It is perfectly possible to utilize the natural interest which children express in these wonderful creations of nature toward directing them into channels of further study and therefore greater enrichment of their lives.

Someone has stated that the greatest interest in connection with birds' eggs is what the egg is in (the nest) and what is in the egg (the developing bird). While these subjects are momentarily less attractive to the child than the delicately colored eggs themselves, the fascination of the eggs can well be utilized to direct the child into making further observations of the nest, the care given to the eggs by the old birds, and of the young which hatch from the eggs. For example: a boy brings a bird's egg to school. It is a blue egg spotted with brown, and the teacher has no idea what bird laid it for he has never seen one like it before. The ordinary teacher makes the boy feel that he has committed a crime and compels him to take the egg immediately back to the nest and the birds that he has robbed, and neither the boy nor the teacher is the richer for the experience. The unusual teacher takes the egg and makes the boy feel that by doing wrong in taking the egg he has likewise robbed himself of the opportunity to watch the birds and suggests that they together try to learn what kind of a bird laid the egg. This leads to a discussion of the eggs of birds with their various colors, sizes, and shapes, and all the children are started in the right direction. They are encouraged to find nests and observe how they are concealed, being very careful not to disarrange the leaves or the grasses about them so as to make them visible to prying eyes. They write descriptions of the nest and how it is concealed, of the eggs and why they are colored as they are, and of the old birds and the care they give the eggs. They learn how long it takes for the eggs to hatch and what the young are like when they hatch. A new field is opened to them.

Some of the lines of interest in connection with birds' eggs are suggested in the following paragraphs.—A. A. A.

THE EGGS OF BIRDS

One who is familiar only with the eggs of domestic fowls has no idea of the variety of the colors, shapes, and sizes of the eggs of our native birds. It is no exaggeration to state that no pigment color exists that is not represented by some tint or shade on the egg of some bird, though, of course, there is little of the brilliancy that makes birds' feathers so attractive. Indeed, it is commonly believed that all birds' eggs are protectively colored. Whether this is true or not we shall take occasion to discuss later, but certain it is that from the snowy white eggs of the Woodpeckers or the azure-blue eggs of the Thrushes, there occurs almost every conceivable combination of ground-color and marking until we come to the eggs of the Loons that are often so dark as to appear almost black. The change that has taken place in the development of our

present-day birds from their reptile-like ancestors in glorifying them with feathers and giving them a blood of uniform temperature, has likewise brought about this change in the coloration of birds' eggs, for those of all reptiles are white or parchment-like.

It is interesting to consider the development of the bird from the reptile in studying the varied colors and shapes of eggs as they occur today. Undoubtedly the greatest single change that took place was the change from the so-called cold-blooded or variable temperature condition of the reptile to that of the warm-blooded or constant temperature condition of the birds. This

A FLORIDA GALLINULE RETURNING TO ITS NEST AND PROTECTIVELY COLORED EGGS

change entailed a great many others and modified nearly every activity of the bird. Particularly did it modify their nesting habits and the nature of their eggs, for the cold-blooded reptile was accustomed to depositing its eggs in the sand, in decaying vegetation, or in holes in trees, leaving them for the heat of the sun to hatch. It mattered little how much the temperature varied so long as they finally received sufficient heat. But after the change to a warm-blooded condition had occurred, it was necessary to maintain the eggs at a constant temperature, and, as the heat of the sun could not be depended upon for this, it became necessary to supply the heat from the bird's own body and the habit of incubating them arose. It was then (with rare exceptions) no longer possible to bury them and, of necessity, they were laid on the surface of the ground or in cavities where the old birds could be with them. At this

time all birds were doubtless laying white eggs, like those of reptiles, for there had been no reason for the development of color. And there was yet no reason for the development of color on the eggs of birds nesting in dark cavities, nor has there ever been in birds like the Woodpeckers, Kingfishers, and their allies which nest in holes to this day and lay pure white eggs. But with the birds that began laying their eggs on the ground it was quite a different matter, for white was very conspicuous and attracted the attention of their numerous enemies. Doubtless these first birds found it necessary to cover their eggs, even as do the Grebes today, when they had to leave them. Then, through the process of 'natural selection,' pigments, intended to make the eggs less conspicuous, gradually developed, and such eggs as those of the Terns, Gulls, and Gallinules resulted, which are colored like the ground or the materials of the nest and are obviously protectively colored. The nests themselves were crude affairs and attracted no attention. They were unsafe, however, in times of storm and flood, and they gave but little protection to the young birds. Fortunately, however, the young were hatched covered with down and were able to run about so that they used the nest for only a short time.

NEST AND EGGS OF THE YELLOW-BREASTED CHAT
The bird conceals the nest and the nest conceals the eggs

As birds progressed and it was found advantageous to have the eggs hatch in shorter periods and to give greater care to the more helpless young, it became necessary to build stronger and more comfortable nests, and these, by their very size, were necessarily conspicuous unless they could be hidden. The various ways in which birds then learned to conceal their nests or to place them in inaccessible places is a story in itself, but the fact should be brought out

here that, with the building of a conspicuous nest, it no longer availed the bird to lay a protectively colored egg, for whatever concealed the nest would likewise conceal the eggs. It is a fact in nature that a structure exists only so long as there is absolute need for it, and that as soon as the need passes, the structure gradually degenerates, though it usually persists through a great many generations. Examples of this are the tonsils and appendix of man which undoubtedly at one time played a very important part in our metabolism but which have long since ceased to function and are in the process of degeneration. So, in the coloration of birds' eggs, while the pigment was originally developed as a protective measure before the birds built elaborate nests, the need for those colors has gradually passed away with the higher types of birds that build conspicuous nests, and the colors are in the process of degeneration. The degeneration has progressed more rapidly with some species than with others and has resulted in the great variety of ground-colors and markings that we find today, most of which must be considered conspicuous. The rate of degeneration is remarkably uniform with most species, however, and so we find today that each species lays a characteristic egg and each family has a type of egg from which there is little departure. Thus, all Robins lay plain blue eggs and so do most of the Thrush family. Spotted Sandpipers lay brownish eggs spotted with black and so do most of the shore-birds; Crows lay greenish eggs spotted with black and so do the Jays; Orioles lay bluish white eggs streaked with black and so do most of the Blackbirds; Warblers lay whitish eggs spotted with brown; Vireos, white eggs with just a few black specks, and so on. Occasionally one finds a nest in which the eggs show a great deal of variation, as that of the Song Sparrow, here illustrated, or that of the Swamp Sparrow in which the eggs are plain blue instead of heavily spotted, but these variations probably mean but little except perhaps to give added weight to the belief that the colors are in the process of degeneration.

Another fact that has perhaps hastened the change from a protectively colored to a conspicuous egg is the fact that a conspicuous egg today often benefits the species. It is a well-known fact that most birds do not begin incubating until the laying of the last egg, and that in the meantime the eggs lie exposed to all of the enemies living in the vicinity. It might be thought, therefore, that a protectively colored egg would be beneficial. On the contrary, if the bird has selected a nesting-site where some enemy is likely to find the nest sooner or later, or if the nest has not been properly concealed, it is far better that it should be found at this stage than later, as there would be less delay in building a new nest and laying more eggs. Nature provides that the bird has very little attachment for its nest during the period of egg-laying, and practically all birds desert it upon the least provocation. Too close approach, the disarrangement of a single leaf or anything that suggests to the bird that its nest has been discovered before incubation has begun is usually sufficient to cause it to desert the nest and start again somewhere else. After incubation

has once begun, the same bird will permit of a great many liberties, and its attachment for its nest increases as incubation progresses, reaching a maximum at the time of hatching. A conspicuous egg, therefore, is in reality a benefit to the species building a conspicuous nest.

It has been stated that hole-nesting birds, like Woodpeckers and Kingfishers, lay pure white eggs, but there are certain exceptions to this rule which give added strength to it and also to that accounting for the degeneration of the pigment in birds' eggs. The exceptions are birds like the Wrens, Nuthatches, Chickadees, and Bluebirds which build nests at the bottom of the cavities and

NEST OF SONG SPARROW SHOWING VARIATION IN THE COLORATION OF THE EGGS

lay spotted or blue eggs. The fact that they build unnecessary nests at the bottom of the holes shows that they have come to a hole-nesting habit comparatively recently, for they must have first learned to build their nests in the open. The fact that they still do build nests and lay colored eggs indicates only the slowness of the course of evolution. It is interesting to note in passing, however, that the eggs of the Bluebird are the palest of all the Thrushes', disclosing the trend of evolution in changing what was once doubtless a protectively colored egg to a pure white egg.

It would not be feasible here to discuss the identification of birds' eggs by their color or size, for many kinds can be distinguished only by specialists. The only safe way for an amateur to identify most eggs is by identifying the

bird that laid them, though with a little experience one can identify at sight most of the well-marked eggs.

The size of birds' eggs varies with the size of the bird, from those of the Hummingbird, which are about the size of beans, to those of the Ostrich, which are nearly the size of one's head. Precocial birds, whose young are hatched in a much more advanced state than the altricial birds, necessarily lay larger eggs since development has to proceed further in the egg and more food yolk has to be stored. The extreme in size of egg as compared with the size of the bird occurs among the shore-birds which lay but three or four eggs. Thus, the eggs of the Upland Plover are about twice the size of those of the Meadowlark, though the birds are about the same size, and those of the Spotted Sandpiper are about twice the size of those of the Catbird. Precocial birds like the Grouse, which lay a large number of eggs, lay relatively smaller eggs than the shore-birds.

NEST AND EGGS OF THE SWAMP SPARROW

They are more protectively colored than the eggs of most Sparrows, but the pigment is apparently in the process of degeneration and unspotted eggs sometimes occur

The average number of eggs laid by birds in temperate climates is four and in the tropics half that number. The number has doubtless been fixed through the course of natural selection so that it compares favorably to the number of dangers to which the eggs and young are exposed. Thus, sea-birds, like the Murres, that nest on inaccessible cliffs where there are few enemies, lay but a single egg, while the game-birds and water-fowl whose eggs and young are exposed to a great many enemies lay from ten to twenty. While the number in a

complement is subject to but little variation with each species, it is not at all indicative of the fecundity of the bird, for, when the nest is broken up, birds will ordinarily lay again and sometimes will continue laying throughout the season until they are finally successful in raising their young. The case of a Flicker that laid 71 eggs in 73 days has been cited many times, and it is not uncommon now-a-days to develop a strain of domestic hens that will lay over 200 eggs in a season, though if the eggs are not removed, they ordinarily stop laying and begin to incubate when they have laid fifteen to twenty.

The shape of birds' eggs varies from those that are quite long and slender, through those that are oval or sharply pointed, to those that are nearly spherical.

EGGS OF THE OSTRICH, HEN, AND HUMMINGBIRD, SHOWING EXTREMES IN THE SIZE OF EGGS OF LIVING BIRDS

Those of the Hummingbird and Ostrich show extremes of shape as well as size. The large eggs of shore-birds are sharply pointed, so that they will fit together like the pieces of a pie and be more easily covered by the incubating bird. Those of the Murres are pointed for another reason—to keep them from blowing off the cliffs where they are laid without pretense of a nest. The ordinary shape of birds' eggs is oval, a shape which keeps them from rolling freely and yet which makes them fit together and be most comfortable for the incubating bird.

The parts of the bird's egg are the same as those of the egg of the domestic fowl or the same as those of any animal, for that matter, consisting of the yolk, the albumen, and the shell, with their respective membranes. The yolk is formed entirely in the ovary of the bird, the albumen in the upper two-thirds of the oviduct, and the shell in the lower third, the pigment ordinarily being the last thing added, though with some birds, like the Emu, the successive layers of shell are each pigmented and colored differently from the exterior.

The time required for the passage of an egg from the ovary to the exterior is somewhat less than 24 hours, so that, ordinarily, one egg is laid each day at about the same time until the number is complete. With the laying of the last egg, incubation ordinarily begins, though with a few birds like the Owls and Bitterns that are less regular in laying their eggs, incubation sometimes starts sooner and the young do not all hatch at the same time. Obviously this is a disadvantage to the young that hatch late, for it does not give them all an equal chance. The period of incubation varies with the size of the egg, larger eggs ordinarily requiring longer to hatch than smaller ones, though there are some minor exceptions to this rule. Thus, while the Sparrows require but twelve or thirteen days, the Hummingbird requires fourteen or fifteen—as long as the Robin. The Least Bittern requires 18 days, the Ruffed Grouse 21, the Mallard Duck 28, and the Canada Goose about 35 days to hatch. The exact time required is not known for many of our common birds, and this is a place where even the school child can add to our knowledge by watching the progress of the nests which he discovers. Little is known, likewise, concerning the care given to the eggs by many birds, how they are turned and how often, which parents incubate, when each incubates, and for how long. There is scarcely a bird whose nesting activities have been described in detail. Ordinarily, the female does most of the incubating and the male stands guard when she leaves to feed, but occasionally, even in such brightly colored birds as the Rose-breasted Grosbeak, the male seems to share the duties equally, and with the Phalaropes, the female allows the male to assume the entire task. The number of observations that can be made upon a nest that is favorably situated is unlimited and is in itself a sufficient argument against the taking of the eggs for a collection. The eggs themselves are interesting, but what happens to them is still more so.—A. A. A.

QUESTIONS

1. What is the best way to identify birds' eggs?
2. How many different kinds of birds' eggs can you recognize?
3. Does each family of birds have a type of coloration for the eggs? What is the type for the Thrushes, Sparrows, Warblers, Vireos, Blackbirds, Flycatchers, Crows, Woodpeckers, Kingfishers, Doves, Owls, Herons, Shorebirds?
4. Do you know of any exceptions to the type in each case?
5. What birds lay white eggs and why?
6. What birds lay protectively colored eggs and why?
7. What birds lay conspicuous eggs and why?
8. How do you account for the origin of color on birds' eggs?
9. Is the coloration of each species of birds' eggs constant and how do you account for plain eggs when they ought to be spotted or abnormally marked eggs?
10. Is the number of eggs laid by each species of bird constant?
11. What determines the number of eggs that a species lays?
12. Can the number of eggs which a bird normally lays be increased?
13. How much variation is there in the shape of birds' eggs and how do you account for their various shapes?

14. How long does it take for the eggs to hatch of such birds as you know and what determines the period?

15. Do both male and female incubate and how are the eggs cared for during incubation?

FOR AND FROM ADULT AND YOUNG OBSERVERS

EARLY SPRING BIRDS

For days I have been patiently awaiting the arrival of the birds. Winter has gone, it is true, but it seems as if spring fears to venture forth. For a time I had great hopes, but a cold north wind blew them all to pieces. However, Robin and Towhee have been braver than spring and the dignified Grackle is also here with us.

It is surprising how much enjoyment one may obtain while watching these three truly common species. One's eagerness for rare birds is forgotten when watching friendly Robin hopping about on the ground, seizing enormous earth-worms, and swallowing them with amusing effort, while all the time he never takes his eyes off you.

A flock of Grackles, having a friendly chat in the topmost boughs of some tree, also provides means of entertainment. While 'tchacking' in a most sociable manner, a member of the flock will suddenly fly to another tree, or perhaps to the ground, and will be joined presently by one of his comrades. Another pair will suddenly take flight into the air and disappear behind the house-tops, perhaps to return, perhaps not. Eventually the whole flock will take flight in this manner.

The little Junco, so noticeable by his white outer tail feathers, though not a spring migrant, is another interesting character. He is easily recognized, also by his note which resembles the twang of a wire. He is almost as friendly as the Robin, and if you will sit still but a few moments, he will come hopping over, and, perhaps, feed only four or five feet from you.

So you see our early spring birds also are interesting, though they do not give you thrills at sight, and much may be learned in observing their habits.—N. Travers Hand (age 13 years).

P. S. Kindly tell if the earth-worm is beneficial or not, for I have seen the Robins consuming many.

[It is certainly true that much can be learned by observing even the commonest birds, and one does not have to be seeing new birds continually in order to have a good time. Answering the question about the earth-worms, it is true that a certain number of worms are beneficial to the soil, but the Robins do not get enough to do any harm, and they do a great deal of good by destroying cutworms, grubs, and other destructive insect larvæ, which are not so conspicuously caught but which are consumed in even greater numbers.—A. A. A.]

A GREAT BLUE HERON FROM NEW HAMPSHIRE

Last summer I was camping with about forty other boys on Bear Island, Lake Winnepesaukee, N. H.

One day, just as we were going swimming, some people landed from a row-boat with a Great Blue Heron, which they had found on the shore of a cove near camp. It seemed to be sick, for it did not try to fly away.

A SICK GREAT BLUE HERON
Photographed by John B. May, Jr.

That noon it was on a point near our landing, and I took several pictures of it with my Brownie camera.

We had seen Herons every few days all summer. Two years ago we found about twenty nests near my father's camp, Winnetaska, on Squam Lake, a few miles from Winnepesaukee.

I have tried to photograph Chickadees and Song Sparrows in the winter and it is lots of fun.—John B. May, Jr. (age 11 years), *Cohasset, Mass.*

[This is an unusually successful picture for a Brownie camera and one that any boy could be proud of.—A. A. A.]

HOW BIRDS' TASTES DIFFER

For two or three weeks we have had a suet holder in one of our buckthorn trees, and many birds have come there for their dinner. When I come home from

school every noon there is at least one Chickadee eating the suet. One day there were two Chickadees and two Downy Woodpeckers eating. Later two Cedar Waxwings settled in the tree but ate the buckthorn berries and not the suet. These birds soon flew away and came back with three other Cedar Waxwings. After a minute or two, six others came to eat the berries. The tree swayed with the weight of a dozen Cedar Waxwings! I have never seen any Sparrows eating the suet.—HELEN WHITE (Age 12 years), *Beverly, Mass.*

[Here is another argument for feeding the birds. It not only helps the birds through times of stress and gives one a great deal of pleasure, but it also makes one more observant of the habits of birds.—A. A. A.]

A GROSBEAK FRIEND

THE RETURN OF THE GROSBEAK

On May 25, 1919, a male Rose-breasted Grosbeak flew in through the open door of a glass-enclosed porch. There he beat vainly against the panes until quite exhausted, and, when found, was picked up and soon resuscitated. Before he was thoroughly recovered he rested quietly in a boy's hand and was photographed. He was also banded (No. 49510). He was then let go. He took to himself a mate, and they built their nest and raised their young not far away, coming daily for food on the shelf which was near the porch. A neighbor very much wished he had come oftener to the shelf so he might have lost fewer of his gooseberries. I, too, would gladly have seen him oftener, especially after he began to bring his wife and children. They were with us all summer.

On May 1, 1920, the Grosbeaks returned to us from the South, and, on May 2, again one was found in the same porch. When caught, unstunned, lo and behold it was banded No. 49510, and we held again in our hands the

same bird who had been held and photographed a year before.—GEORGE ROBERTS, JR., *Lake Forest, Ills.*

[This is a good example of the interesting results being obtained by banding birds. The bands have proven not only that birds come back to the same place to nest each year, but likewise that some, at least, spend each winter in the same place.—A. A. A.]

FRIENDLY PIGEONS

We three girls, Helen, Julia, and Frances Holt, live in the city of Portland, Maine. But we have a big lawn with lots of trees and bushes and a large garden. We see many birds. We have a Canary and about forty Pigeons.

About two years ago a very handsome male Pigeon, with his mate, appeared. They seemed to be asking for food, because they timidly came on our porch and peeked in the window at us. We all went down to our uncle and we each took home a handful of oats. (He uses oats for his horses and pigeons.) When we got home we put the oats on our lawn and hid to see what would happen. Very soon the male came slowly down and looked at the food. It was about five minutes before he timidly took one grain of oats. Then he stopped being afraid of it and ate greedily until it was all gone. We used our three handfuls of oats all up, so we asked father to get us some more. He bought us a big bag of oats.

The next day we noticed the pair of Pigeons taking sticks to our gutter right over the pipe that took the water down to the ground. We could see the female on her nest from our attic window. All went well for a few days until a storm came. The gutter was full of water that couldn't go down the pipe because the nest stopped it up. The poor Pigeon would have been drowned if she had stayed there, so very regretfully she left her three precious eggs. Gradually the sticks went down the pipe and the eggs followed.

About two or three days later she built another nest. This time it was on a neighbor's house next door. There she raised her family in safety. One evening we had some peanuts and we took them outdoors to eat. We left them on a bench while we went indoors a minute, and when we came back they were all gone. Who did it? The Pigeons! We went in and got some more and he nearly ate them out of our hands. In about a week we had trained Pidgeony (the male) and Ridgeony (the female) to eat out of our hands when we placed them on the grass. In about a month they would *fly* up on our hands when we held them out level with our necks with peanuts on them. The Pigeons increased to thirty and then to forty. We named almost all of them. They stayed with us two years and are still here.

The next spring a Chipping Sparrow built on a low little spruce tree. We visited it too often so the birds moved their nest into a barberry bush on the border of our garden. One night we were called over to see an egg on the sidewalk near the front of our house. We examined it and found it to be a

Chipping Sparrow's egg. It was warm so we put it in the Chipping Sparrow's nest and in two or three days it *hatched!* The parents now had an extra baby. My! they were proud.

We have seen a Yellow Warbler's nest.

We have also seen on our picnics, Chickadees, Goldfinches, Bobolinks, Meadow Larks, Fox Sparrows, English Sparrows, Bluebirds, Blackbirds, Crows, Bronzed Grackles, Chipping Sparrows, Cowbirds, Robins, Indigo Buntings, Song Sparrows, Wild Ducks, Herring Gulls, Common Terns, Cedar Waxwings, Woodpeckers, Downy Woodpeckers, Tree Swallows, Sandpeeps, Barn Swallows, Owls, Sharp-shinned Hawks, Flickers, Phœbes, Ospreys, Sparrow Hawks, Red-winged Blackbirds.—HELEN BROWN HOLT (age, 10 years), *Portland, Maine.*

[The response to kindness which these Pigeons showed is the same as that frequently displayed by many of our native birds. The pleasure which they brought to these girls might have been augmented had they been real wild birds, but it shows that it is not necessary to live in the country or to have uncommon birds about one to truly enjoy their company and friendship.—A. A. A.]

A NEST CENSUS

I thought that BIRD-LORE might like to print the number and kinds of bird-nests that I have found this year within half a square mile. They are as follows: 26 Tree Swallows; 13 Robins; 10 Chipping Sparrows; 3 Song Sparrows; 1 Field Sparrow; 8 Bluebirds; 1 Catbird; 1 Oriole; 1 Flicker; 1 House Wren; 1 Phœbe; 1 Red-eyed Vireo; 1 Kingbird; 1 Grackle; 1 Meadowlark; 1 Red-winged Blackbird; 2 Crows; 4 Chimney Swifts; 3 Barn Swallows; 10 Cliff Swallows; and two 29-compartment bird houses full of Purple Martins.

Sincerely yours,

RALPH CARPENTER, JR., *Wolfeboro, N. H.*

The Audubon Societies

EXECUTIVE DEPARTMENT

Edited by T. GILBERT PEARSON, Secretary

Address all correspondence, and send all remittances for dues and contributions, to the National Association of Audubon Societies, 1974 Broadway, New York City.
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Any person, club, school or company in sympathy with the objects of this Association may become a member of it, and all are welcome.

Classes of Membership in the National Association of Audubon Societies for the Protection of Wild Birds and Animals:

$5 annually pays for a Sustaining Membership
$100 paid at one time constitutes a Life Membership
$1,000 constitutes a person a Patron
$5,000 constitutes a person a Founder
$25,000 constitutes a person a Benefactor

FORM OF BEQUEST:—I do hereby give and bequeath to the National Association of Audubon Societies for the Protection of Wild Birds and Animals (Incorporated), of the City of New York.

WILLIAM DUTCHER, 1846-1920

William Dutcher, the President of the National Association of Audubon Societies, died July 1, 1920, at his home in Chevy Chase, Md. On Oct. 19, 1910, while at his home in Plainfield, N. J., he was stricken with paralysis which totally deprived him of the power of speech and the ability to write anything but his own name. For nearly ten years he lived in this most unfortunate condition. During the most of this time his mind was bright and he always took the greatest interest in reading or hearing of the developments of the National Association's activities. His name will always be revered and his memory cherished for the great work he did in the interests of American bird-protection during his active career in this cause, which extended over a period of fifteen years (1896–1910).

In 1896–97 he was Chairman of the Committee on Bird Protection of the American Ornithologist's Union. In the year 1900, Abbott H. Thayer, the portrait painter, approached various members of this Committee, suggesting that a fund be raised for employing guards to protect sea-bird colonies along the Atlantic coast. Mr. Thayer writes that William Dutcher alone had faith in the plan and offered to learn the location of these bird colonies and engage wardens to guard them if money could be provided for the purpose. Mr. Thayer thereupon raised a fund of $1,400, and the protection of sea-bird colonies was that year begun under Mr. Dutcher's direction. When November came he was again made Chairman of the Union's Committee on Bird Protection, which position he occupied for some years.

Audubon Societies were at that time in operation in many parts of the country, and in the fall of 1900 the National Committee of Audubon Societies was inaugurated. On April 4, 1902, when the Committee was formed in permanent shape, Mr. Dutcher was made Chairman.

That fall the third conference was held in Washington, D. C. The delegates present pledged a fund of $600 to defray the expense of a stenographer for the Chairman's use. Mr. Dutcher found this sum inadequate for his ambitious undertakings, even with the aid of the Thayer collections. He and others, therefore, appealed to the public for support, and the income

of the Committee for the year 1904 closely approached $5,000.

Mr. Albert Wilcox, of New York City, had become interested in the movement for bird-protection and that year not only made a contribution to clear the Committee of its deficit but offered to will the Committee a substantial sum if it would incorporate. This led to the incorporation of The National Association of Audubon Societies for the Protection of Wild Birds and Animals, in January, 1905, Mr. Dutcher being one of its thirty founders. By the unanimous vote of the Directors he was chosen President, a position he held until the time of his death.

During the six years of his activity in this office, he accomplished more for the cause which lay so near to his heart than most men are privileged to achieve in a lifetime.

All the time that could be spared from his duties as a general agent of the Prudential Life Insurance Company was given joyfully and without remuneration to the cause of bird-protection. He was the leader in many campaigns for bird-protective laws, conducted wide educational propaganda, and continued his great interest in the guarding of water-bird colonies and the establishment of Government bird reservations. His correspondence grew heavy and much of his writing was done at home in the evening after most men's work was over. He was at all times most kindly and lovable in his associations with others and by his zeal and unusual personality he drew many workers into the field of bird-protection.

Mr. Dutcher was born in Stelton, N. J., in 1846, and was buried in Hillside Cemetery, Plainfield, N. J., July 6, 1920. His death occurred just as BIRD-LORE is going to press, which prevents the presentation of a more adequate account of his character and achievements. This it is planned to present later.

THE DEAD EAGLES OF ALASKA NOW NUMBER 8,356!

In January, 1919, through these columns, the Association first advised the public of the nefarious bounty law in Alaska, which provides for the payment of 50 cents for every Bald Eagle killed in that territory. In the May-June issue of the same year there appeared an account of our efforts to secure, at the last session of the Alaska Legislature, the repeal of this law.

These articles attracted the attention of others who in turn have voiced their opposition to the idea of Alaska seeking to exterminate these noble birds. The Association has put in motion certain movements which we have reason to believe will, before long, result in the repeal of this law. In the meantime the slaughter of Eagles goes merrily on at the rate of 200 a month.

The following letter, dated April 22, 1920, and written by the Secretary of the Alaska Fish and Game Club, brings up to date the available information regarding the slaughter of these birds.

My dear Pearson:

Complying with the request as stated in your letter of April 13, it is advised that the Territorial records show that since last reporting to you as of date December 6, 1918, bounty has been paid upon 3,256 Eagles or a total of 8,356 since the passage of the act and its taking effect.

A vast difference is noted in the number of this bird showing in southeastern and western Alaska and it is a safe prediction that if the slaughter continues for a few years longer the species will become practically extinct in this country. The number upon which bounty has been paid does not cover all which have been destroyed, for it is agreed between hunters that many a bird which has been shot is not recovered. Various estimates have been made as to the proportion of those brought in for bounty to those destroyed ranging from 25 to 50 per cent. It is believed that out of every four shot, three are reported for bounty, the other is either lost in the woods or is seriously wounded and subsequently dies.

It will be a pleasure to respond to any of your inquiries from time to time, so do not hesitate to command.

Very sincerely,
C. D. GARFIELD, *Secretary*

THE JUNIOR ORGANIZATION FOR 1919-20

June 1, 1920, brought to an end the tenth year of the Association's efforts in the organization of children into bird-study clubs. Never before has there been such a response from teachers and pupils. During the past year 8,398 Junior Audubon Clubs were formed, with a total paid membership of 280,963 children. The membership exceeded that of last year by 101,169, and the enrollment would have been greater had the Association been financially able to respond to all the requests for bird-study material that were made. As it costs about twice as much to supply the children as their fees amounted to, it can readily be seen that our work of organization ultimately came to an end when our Junior fund of $27,500 became exhausted. This occurred during the month of May. From that time on it became necessary to return the fees forwarded by teachers who were anxious to enroll their classes in the Audubon cause. Up to June 1 these fees to the number of 14,950 had been sent back to disappointed children, and this condition must continue until the new supply of literature for the coming year is ready for distribution in the autumn.

As for several years past, the Association this year received $20,000 for this work from an unnamed benefactor, and seventy other friends contributed to make up the remainder that was used. Their names, with amounts, will be published later, in connection with the annual report of the Association.

The increased cost of all matters in connection with printing will make it impossible to extend the privilege of Junior Members to the extent of the past year unless contributions for this work should increase. The following statement shows the distribution of the Junior Clubs and the Junior membership for the school year of 1919–20.

States	Junior Clubs	Members
Alabama	14	417
Alaska	1	82
Arizona	10	254
Arkansas	22	868
California	195	7,167
Colorado	116	4,680
Connecticut	514	16,254
Delaware	152	4,693
District of Columbia	7	278
Florida	15	702
Georgia	33	1,260
Idaho	31	1,107
Illinois	375	12,960
Indiana	209	6,716
Iowa	229	8,460
Kansas	68	2,099
Kentucky	42	1,503
Louisiana	12	363
Maine	49	1,502
Maryland	79	2,462
Massachusetts	822	25,240
Michigan	201	7,149
Minnesota	356	11,020
Mississippi	17	510
Missouri	82	3,322
Montana	41	1,376
Nebraska	113	3,651
Nevada	3	127
New Hampshire	72	2,089
New Jersey	440	15,492
New Mexico	5	368
New York	1,070	37,817
North Carolina	28	960
North Dakota	32	1,034
Ohio	825	24,120
Oklahoma	31	1,018
Oregon	91	3,815
Pennsylvania	675	25,037
Rhode Island	20	666
South Carolina	57	1,514
South Dakota	36	1,140
Tennessee	21	774
Texas	43	1,405
Utah	20	608
Vermont	29	1,124
Virginia	48	1,655
Washington	154	5,883
Wisconsin	67	2,019
Wisconsin	251	7,869
Wyoming	14	421
Canada	560	17,893
China	1	20
Totals	8,398	280,963

EXPLORING FOR NEW BIRD COLONIES

By T. GILBERT PEARSON

Illustrated with Photographs by the Author

Our success of recent years in guarding colonies of Egrets and other rare birds in the southern states, coupled with the alarming decrease of these birds in regions where we have not employed wardens, warrants the Association in making more extended efforts in behalf of these persecuted species. The desirability of locating other colonies of birds and making a survey of the general situation in some of the new or little-known regions, led the Secretary the past year to undertake explorations in some of the southern states.

On May 4, 1920, in company with H. H. Brimley, an inspection was made of the 'Crane Neck' Heron colony on Orton Pond, Brunswick County, North Carolina. We had visited this interesting place in the intervals ever since first discovering the colony one June day twenty-two years ago, and it was painful to note that the passage of the years has played sad havoc with the Herons of this region. Representatives of all the birds formerly frequenting this special group of cypress trees were present, but four of the species, viz., the Little Blue Heron, Louisiana Heron, Black-crowned Night Heron, and Snowy Egret had collectively shrunk from at least 2,000 to not more than 150 individuals. The two remaining species, however, appear to have held their own in numbers. In fact, we thought them more numerous than they were ten years ago. The nests of these large birds were in tall cypresses and so located that we were unable to devise any means of accurately determining their numbers. However, after much time passed in counting nests and seeking to avoid duplications, we at length estimated the colony to contain about seventy-five occupied nests of the Egret (*egretta*), and one hundred nests of the Great Blue Heron. Since my first visit in 1898, two other flourishing colonies of Herons in the neighborhood, both of which contained Egrets, have ceased to exist. The Crane Neck, with one exception, is today the colony

LOOKING UPWARD IN THE ORTON HERON ROOKERY. IN SIGHT ARE TWO EGRET NESTS AND FOUR NESTS OF THE GREAT BLUE HERON

H. H. BRIMLEY LOOKING INTO A WOOD DUCK'S NEST. ENTRANCE IS SEEN INSIDE CIRCLE. PEEP HOLE IS VISIBLE JUST UNDER MR. BRIMLEY'S ARM

farthest north of all the breeding groups of Egrets of which I have knowledge in the eastern United States.

The bird-life on and about Orton Pond is various and abundant. Prothonotary and Yellow-throated Warblers are plentiful. The cries of Chuck-Will's-Widows were constantly in the air of evenings, and the birds often came within sixty feet of our camp. Mockingbirds, Brown Thrashers, Catbirds, Orioles, and Carolina Wrens were singing on all sides, while, clear above all the melody of music, came the ringing note of the Bob-White. Wood Ducks were abundant. Two of their nests were found in hollow trees. One nest, discovered May 3, held eleven eggs and two days later it was found that another had been added.

A flourishing colony of breeding Ospreys occupy Orton Pond. A survey of about four-fifths of the pond yielded forty-two nests, all but six of which were unquestionably occupied. At this date eggs were just being deposited and in only a few cases did the actions of the birds indicate that incubation had begun. The nests are occupied for a great number of years and become huge affairs four feet or more in thickness. They appear to be built entirely of dead pine limbs from which the needles have fallen, but to which the bark still adheres. The long gray moss (*Tillandsia*) of the region appears to be the only other material used, and the nests are usually lined with it. At times long fragments of moss become entangled in the

SAMPLES OF THE FORTY-TWO OSPREY NESTS ON ORTON POND, NORTH CAROLINA

talons of the birds and stream out behind when they rise from the nest.

An interesting feature about these Fish Hawk nests is that, without exception, they have all been built over the water. A curious feature about the behavior of these birds is observable in the fact that although the waters of the pond abound in fish, they seem never to attempt to catch any of them, but appear to seek their prey in the salt waters of the ocean, twelve or fifteen miles distant.

Orton Pond is on Orton Plantation, a baronial estate owned and magnificently preserved by James Sprunt of the nearby city of Wilmington. Mr. Sprunt, who has long been a member of the National Association, extended to us a welcome and a hospitality which no words of mine could adequately describe.

From North Carolina my duties led me to Charleston, S. C., where, in company with Miss Laura M. Bragg, of the Charleston Museum, an expedition was made up the Cooper River to the Coming Tee Plantation in an effort to locate a colony of Egrets said to be nesting in the rice-reserve pond. Eight large Egrets were seen, but our search for their breeding-place was without avail.

West Feliciana Parish, Louisiana, to which place I next journeyed, is a realm of interest to the ornithologist. Here it was that Audubon for a time studied birds and made many of his famous drawings. The country must be much as it was in Audubon's day, and quiet and refinement reigns from deep galleries as they did a hundred years ago.

Of the natural beauties of the region Audubon wrote: "Rich magnolias covered with fragrant blossoms, the holly, the beech, the tall yellow poplars, the hilly ground, and even the red clay, all excited my admiration."

In the heart of the Audubon country I was graciously received in the home of Edward Butler, another member of the Association. For many days he and his brother Robert spared no exertion to make my visit enjoyable and to assist me in exploring the country far and wide. In their company I was privileged to visit Oakley, the old plantation house that stands just as it did when in 1821 Audubon lived there and taught painting to "my beautiful Miss

"OAKLEY" THE LOUISIANA PLANTATION HOME WHERE AUDUBON TAUGHT PAINTING TO MISS PIERRIE

WE EXPLORED 'THE BURN' IN LIGHT PIROGUES

Pierrie," whose fresh young face has been preserved in a painting that still hangs on the wall of this historic home.

At Bayou Sara I was met by R. H. Stirling, who was assigned by the State Conservation Commission to be my guide while in the state. On May 14, near the town of Jackson, we visited a Heron colony which contained probably forty pairs of Snowy Egrets, in addition to many Little Blues, Louisiana, and Black-crowned Night Herons. A warden was at once employed to guard this colony.

Traveling by automobile northward into Wilkinson County, Mississippi, a swamp known locally as 'The Burn' was investigated in diminutive pirogues. This proved to be the home of many water-birds, including perhaps 200 pairs of Little Blue Herons, 8 pairs of Yellow-crowned Night Herons, 12 pairs of Snowy Egrets, and at least 75 pairs of Water Turkeys. Many nests were examined. Egrets have nearly all been killed in this section, but 10 or 12 pairs of Snowies were observed, and a local man was engaged to guard the colony. If it can be protected a few years it should become one of the most important breeding-places of water-birds in that section of the country.

Down in Cameron Parish, Louisiana, I was greatly disappointed to find that the Roseate Spoonbills discovered a few years ago in Black Bayou were no longer to be found. A scientific expedition, with collecting permits, visited this colony last year with the result that the surviving Spoonbills had not again returned. A small colony of Herons, which included perhaps half a dozen Snowy Egrets, constituted the total water-bird life found here on May 18. Farther south in the same Parish, however, a splendid surprise awaited us. Here, on what is locally known as 'Bird Island' on Cameron Farm, there is located a colony of Herons in which I counted forty Snowy Egrets and five of the large Egrets. Here, to my delight, I found breeding Spoonbills and 87 were in sight at one time, sailing around in the air over the trees. At this time no young were visible, and the 75 nests examined contained sets of eggs varying from three to five in number. The warden whom I employed to guard the place has since reported that the number of Spoonbills increased to the neighborhood of two hundred shortly after my visit.

At Aransas Pass, on the coast of Texas, I was met by William L. and Irene Finley who had journeyed there by appointment from Portland in order that we might work together in some of the interesting bird-colonies on the Texas coast. We were received as guests aboard the 'Jim Duke,' a stout gasoline boat with adequate cabin space for our party, owned by the State Game, Fish, and Oyster Commission. In this we traveled northward eighty miles

BROWN PELICANS, OLD AND YOUNG, LEAVING DUNHAM'S ISLAND, TEXAS

or more, visiting many islands that were the home of numerous sea-birds.

One of the places where we stopped was Dunham's Island, at the northern extremity of Aransas Bay. This is merely a little lump of oyster shells about a hundred and fifty feet long and from fifteen to twenty-five feet wide. We found it occupied by a community of Brown Pelicans that were engaged in caring for their young. Nearly all the eggs had hatched and all the young, with the exception of perhaps half a dozen, were large enough to leave the island and swim away when we came among them. Three hundred and four young were counted. As these Pelican squabs moved along over the shells they continually disgorged fish upon which they had recently been fed. An examination of these showed that with the exception of three individuals all these fish were menhaden, which, as I discovered during my cruise of the Gulf Coast for the United States Food Administration in 1918, constitutes the principal food for our eastern North American Brown Pelicans while in the juvenile stage.

GROUPS OF MENHADEN DISGORGED BY YOUNG PELICANS

REDDISH EGRETS NESTING ON 'SECOND CHAIN-OF-ISLANDS,' TEXAS

On other islands many nests were found of the Black Skimmer and Laughing Gull. As we were wading along the shore one night, fishing for flounders, we came upon a young Oyster-catcher which was not old enough to fly and yet had sufficient strength to run with astonishing rapidity. One day, a Western Willet arose crying from its nest that held four eggs, hidden in the grass. Nests of the Mourning Dove and Nighthawk also were found on these low-lying islands of sand and shells. Hidden under a cluster of dead mesquite bushes and girt about by groups of prickly pear cactus, two young Black Vultures were discovered that proved to be interesting subjects for the moving-picture camera.

On the Second Chain-of-Islands, situated between Mesquite and San Antonio Bays, we visited a colony of Herons which I had found in 1918. Last year the islands were washed by heavy seas and much of their vegetation destroyed. Also, they had been greatly reduced in size. On six of them birds were breeding. Nests and young of the Ward's Heron, Louisiana Heron,

YOUNG REDDISH EGRETS, IN BLUE AND WHITE PHASES OF PLUMAGE

MR. AND MRS. FINLEY PHOTOGRAPHING YOUNG BLACK VULTURES

Black-crowned Night Heron, and Great-tailed Grackle were numerous.

To us the most interesting of the group was the Reddish Egret, as at this time we knew of no other place in the United States where this rare bird was to be found breeding. We estimated that of this species there were about five hundred pairs. The old birds were not shy, and it was easy to photograph them in the open, while, with the aid of a blind, Mr. and Mrs. Finley secured at close range excellent moving pictures of this hitherto unfilmed bird.

(*To be concluded*)

OUR NATIONAL PARKS ARE THREATENED

On April 23, 1920, a notice was sent to all organizations affiliated with the National Association calling attention to the bill, then pending in Congress, to allow commercial interests to exploit Yellowstone National Park for their own purposes. Request was made that the officers of these various organizations at once communicate with their congressmen and senators and express their opposition of the measure. The response was immediate and generous, and later a hearing on the merits of the bill was secured.

The National Association, with others interested, was present to oppose the Smith Yellowstone Park Irrigation Easement Bill when it came up before the Rules Committee of the House, May 25. Our efforts were successful and the bill was not reported out of Committee. Temporarily, it is killed, but it will no doubt be brought forward again.

There seems an organized effort on foot to break down the national park system—to use for commercial purposes these resting-places whose value for recreation is so much more important than it is for commercial uses. Men and women who visit these parks and behold their beautiful scenery and their bits of untouched nature, gain from these visits a new freshness of mind and a new vigor of body that is worth more—will produce more wealth for the country—than can be had from all the water or the power or the timber that could be taken from them.

Some of these parks have been handed over to the citizens of this country for the specific purpose of benefit and enjoyment. They were established as pleasure-grounds. It is no more fitting that they should be used for money-making projects than it would be to build loft buildings in Lincoln Park, Chicago, or in Central Park, New York City.

If Congress understood the rights of the people in these parks and the feeling the people have for them it would refuse to legislate to abridge these rights. That Congress does not fully sense the public's

desire to keep the parks at all times absolutely free from exploitation has recently been shown in its passage of the Water Power Bill. This astonishing document gives to the Secretaries of War, Interior, and Agriculture absolute power to pass on requests for using the water-power in the various public lands, including 'National Parks and Reservations.' President Wilson signed the bill and it is now a law.

Forty-eight years ago Yellowstone Park was established and others have since been created. Up to the present time only by an act of Congress could the sanctity of these parks be violated in any way. Now Congress has seen good to delegate this power to three men. The main ray of hope in this situation is that a movement is on foot to secure the repeal of this new water-power law in so far as it effects national parks and reservations.

ANOTHER CAT ORDINANCE

ORDINANCE No. 1694

Miss Gertrude Huber, who is Chairman of a Committee appointed by the local Audubon Society and Burroughs Nature Club of Massillon, Ohio, to foster an ordinance for the control of stray cats, has written that as result of their efforts the following ordinance has recently been put into operation:

Title—To provide for the regulation of cats in the city limits.

WHEREAS stray and unrestrained cats wandering about the City of Massillon, have become a menace to the public health and a source of damage to gardens, and have been and are destroying large numbers of birds living and nesting within the limits of the city, and such cats should be restrained or destroyed in order to promote the health, comfort, and welfare of the inhabitants of the city,

THEREFORE be it ordained by the Council of the City of Massillon, State of Ohio,

Section 1—Stray Cat. The term 'stray' cat as used in this ordinance shall be held construed to mean any cat within the limits of the City of Massillon and not on the premises of the owner or keeper thereof.

Section 2—Unrestrained Cat. The term 'unrestrained cat' as used in this ordinance shall be held and construed to mean any cat not controlled or kept in proper confinement by the owner or keeper thereof as hereinafter provided.

Section 3—When a Nuisance. The permitting or keeping of any stray or unrestrained cats within the limits of the City of Massillon, contrary to the terms of this ordinance, is hereby declared to be a nuisance and any and all such cats shall be restrained or destroyed as provided by this ordinance, and the owners and keepers thereof shall be subject to the fines hereby imposed for any violation of this ordinance.

Section 4—Control and Restraint of Cats. No person shall cause or permit any cat or cats owned or kept by him or her to run at large, or upon the premises of any other person, within the City of Massillon between the hours of 7 P.M. and 9 A.M. of each and every day during the breeding season of the birds, to wit: from April 1 to September 20, both inclusive of each and every year.

Section 5—Police Control. It shall be the duty of the chief of police, his assistants, and all policemen of the City of Massillon to warn any owner or keeper of any cat who violates any of the provisions of this ordinance that upon a second violation the cat will be killed and if after such warning any such owner or keeper again violates the provisions hereof by neglecting to restrain his cat as herein provided, such cat shall be forthwith killed by such officer in some humane manner.

Section 6—Trespass. All persons shall have the right to kill any and all stray or unrestrained cats trespassing upon their premises at any and all times, and the owners or keepers of such cats so killed shall have no right of redress therefor.

Section 7—Penalties. Any person violating any of the provisions of this ordinance shall be subject to have his or her cat taken up and killed as herein provided, and shall also be subject to a fine of not less than $2 nor more than $5 for each violation of this ordinance.

Section 8—This ordinance shall take effect and be in force from and after the earliest period allowed by law.

Passed June 14, 1920.

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Benninghofen, Carrie

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Campbell, Edward K.
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Cram, Lily C.
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Species—Aéneus & Quiscula

National Association of Audubon Societies

Bird-Lore

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Vol. XXII SEPTEMBER—OCTOBER, 1920 No. 5

Smithsonian Institution
OCT 19 1920
National Museum

The Screech Owl

By H. E. TUTTLE, New Haven, Conn.
With Photographs by the Author

CURIOUSLY enough, my first glimpse of the Screech Owl was not vouchsafed at dusk among the shadows of an upland orchard, but under the glaring sun of a winter's noon in the city of Chicago. He sat on the edge of the cornice above the third-story windows of the house opposite, while we pressed our noses to my grandfather's window-panes and watched him with excited interest during several hours of the day. He perched, shut-eyed and motionless, his plumage a rusty red against a background of sooty bricks, while we wondered how he got a living and why he had selected the city for his home. He, or his counterpart, occupied the same niche for two winters, and it is my present belief that the English Sparrows which crowded our vines at evening were "by a mousing owl hawked at and killed." I shed no tears at the thought, and for as many of their deaths as may be laid at his door I commend him.

While as a species I can regard its predatory forays with favor, I have met with individuals toward whom circumstantial evidence of indifferent morals pointed its damning finger. Baby-killing, for instance, is no longer in popular favor, and yet I came upon a Screech Owl one day, carrying what seemed to be a small kitten. I followed his line of flight, and as the burden proved too great a handicap for him in his effort to place a safe distance between us, he dropped it, but lingered near as if reluctant to yield it to my inspection. To my astonishment I discovered that it was an infant Owl, quite downy and quite dead. Now the elder Owl may not have been related to his younger victim, or again he may not have killed it, but in view of the facts I returned a Scotch verdict against him.

My next acquaintance with the Screech Owl began one spring day, when, on looking up toward the top of a hollow basswood, I saw an Owl sitting upon the lower lip of an orifice. Securely sheltered there he blinked away the days, while at night he hunted through the darkness of the shadows and made our woods musical with low-voiced hooting.

There are some people who dread the voice of the Screech Owl; they complain that it is mournful with foreboding, wailing with melancholy. But I would not rob the night of mystery nor take from music the glory of her threnodies. There are hours for comedy and hours for tragedy, days of prose and nights of poetry, and where tragedy stalks, there must be heard the Owlet's note. The ululations of the Owl, his mocking laughter, yield a mystery to a grove otherwise commonplace. Who would not barter his shade trees for a haunted wood? Let those who will make merry with their Robins, but bring me at evening to an ancient oak, there to hear the Screech Owl tolling his sorrows while the dusk grows grey.

I can never quite reconcile myself to the fact that the Eagle, no less than the domestic hen, must spend her allotted time upon the nest. Such bondage seems alien to her free spirit; she should be broadening her wings to the blast above the rolling seas or soaring higher than the silent mountain peaks. I find it equally hard to imagine a brooding Owl. The bird has an aloofness about him that would seem to discourage family ties, yet Owls bring forth their young in due season—strange caricatures of their progenitors, dignified of mien but ridiculous in aspect, Solons in swaddling clothes.

I do not like to malign the Owl, for I have more than a sneaking fondness for him, but there is a subtle relationship between the Owl and the pussy cat, which was recognized by the gentleman who sent them to sea in a beautiful pea green boat. Have you ever seen an Owl in a rage? With eyes half shut and ears laid flat to his head he hisses with all the rasping fury of a fighting Tom, and were it not for the frequent snapping of his mandibles he might well pass for the cat's familiar. It was not without reason that a witch rode her broomstick with an Owl on her shoulder and a Tom cat perched behind.

Last spring a teamster brought me a young Screech Owl which he had rescued from the center of a village road, where, indifferent to his danger, the Owlet watched the feet of the approaching horses. During the week that he was a member of our household we became greatly attached to him, though beyond a friendly indifference he did not manifest any affection in return. There was something eerie about him, however, so that when a friend discovered his presence between the clock and a vase upon our mantlepiece she was frightened, and when he began to wave his head to and fro, shifting his weight from one foot to another and changing the focus of his yellow eyes, she fled. This ability to increase or decrease the size of the pupils, regardless of a difference in light, is a peculiarity that I have noted in three species of Owls, the Screech Owl, the Barred Owl, and the Great Horned Owl. The ability seems to be voluntary, for I have seen the pupils of all three species change in size when food was offered for close-range inspection, and I have observed, in the case of the Screech Owl and the Great Horned Owl, the pupil of one eye change without relation to the pupil of the other; this difference, when suddenly effected, gives the Owl a very uncanny appearance.

SCREECH OWL
"He might well pass for the cat's familiar"

A YOUNG SCREECH OWL
"Dignified of mien but ridiculous in aspect"

I suppose years of testimony will not change the current impression that Owls see but imperfectly during the daylight hours. Years of observation have convinced me that they see quite as well as cats. A hairy caterpillar, crawling among the blades of grass of a golfer's fair green, was seen and swooped upon by the Owlet, though he had been sitting upon a fence-post some twelve feet distant, blinking in the early afternoon sun. Once captured and sampled, the caterpillar was rejected. A mouse would not have been refused, though the Owlet had been crop-full.

The habits of Owls in dealing with mice are well known; not so well known are the details. If it is the severed head that makes the seraph, there will be choirs of mice among the angels, for though such small fry are usually swallowed whole, decapitation is the favorite method for piece-meal consumption. The severed head, whether of mouse or bird, is apparently the favorite portion, for it is eaten first. Just what gustatory pleasure an Owl takes in partially swallowing what he can not wholly consume, I do not know, but I have seen a Screech Owl compass a small house-mouse at a single gulp, though the tail of the unfortunate rodent hung limply from his mandibles for some time after, mute evidence that he had dined not wisely, but too well. This capacity for swallowing objects, apparently large in proportion to the opening through which they must pass, is partly accounted for in the fact that the Owl's upper mandible is hinged and moves upward at the same time that the lower mandible is moved in the opposite direction, so that the angle made by the opening of the beak to receive a mouthful is obtuse in the extreme.

I am sorry that the unwillingness of the Great Horned Owl to forego an occasional chicken or roosting Grouse has brought his more beneficial congeners into disrepute with the farmer and the gamekeeper. The blood of a chicken, crying to them from the ground, is of more value in their sight than the secret sepulture of a thousand rats, and in their haste they exclaim with the psalmist, "There is none that doeth good, no, not one!"

But though the Great Horned Owl may be driven to the more remote regions, as the highwaymen to the lonely woods, the more sociable Screech Owl will remain. Among ancient orchards, whose barren limbs have suffered no profanation of pruning hook or devastating axe, the Screech Owl will keep watch over the mysteries of night, crying softly from the shadows, like a poor ghost that will ne'er be laid.

The Tragic Story of a Titmouse

By GEORGE ROBERTS, JR., Lake Forest, Ills.

ON April 22, 1918, I was asked by one who had but a slight knowledge of birds, to identify a light blue-colored bird, smaller than a Robin, possessed of a crest, and with a cheery whistle-like note. I was unable to answer. Two days later, right after breakfast, I was almost shot out of doors by the sound of a bird-note that was new to me; to be more exact, it was less like a note than like a whistle. It was repeated continually, and in less than a minute I saw the bird himself (I learned the sex later), a Tufted Titmouse, who was busily feeding amid the bushes. He was perfectly fearless, and I was able to watch him for some time, and to approach within eight feet of him. I knew him as soon as I saw him, though I had never yet seen one of this species, and I also connected him with my friend's question of two days before. In about ten minutes, pressure of work and the bird's journeying a little too far from the confines of my own yard, sent me indoors again; but I did not commence work until I had consulted the books, corroborating my identification and learning a little about this new visitor. The most interesting fact learned was of his rarity in this part of the world, not quite so rare as to be unheard of, but such as to be worthy of note and mention. Seldom does the Titmouse reach so far north in the state of Illinois (30 miles north of Chicago and fifteen miles from the state of Wisconsin).

In the next few weeks this new friend was constantly within either sight or hearing, and nearly every neighbor had been attracted by his whistle, which so distinctly resembled a man calling loudly for his dog. I could not find, and have not yet found, any resemblance of this whistle to the familiarly-written *peto, peto;* with us it was oftenest monosyllabic. Beside this, the note most often heard, he possessed another series of notes which most closely resembled the *chick-a-dee-dee-dee* of his black-capped cousin, though it was not quite so cheery, and was of a little harsher quality; perhaps I should say that it seemed to come more from the throat and less from the heart—and all friends of his cousin will agree with me that he at least does speak from the heart. After being once heard and the speaker identified, there was never any difficulty in distinguishing the two.

Thus matters went on during the summer. From the almost constant sight or sound of him it would seem that he never wandered far from a radius of a few hundred feet from my study; so much so, that, with the bird-lover's sense of proprietorship, I soon found myself calling him '*my* Titmouse.' Still more did I use that pronoun after Armistice Day, November 11, on which date he appeared on the bird-shelf outside of my window, and made me forget the international and world event just transpiring; that seemed a small thing by comparison. At first he but hastily seized a seed and flew off to a neighboring tree to eat it, returning promptly for more; but before the day was over the

initial timidity had been conquered and he remained on the shelf to eat. This he continued to do for many months. His fare consisted of hemp, bread crumbs, and suet, mentioned in the order of his preference. Before very long he was thoroughly at home on the shelf, and was to be seen at almost any time from sunrise to sunset. His coming was usually announced by the cheery whistle or by some other notes. He soon became the dominating, if not the domineering, presence of the shelf. He always landed (that word best expresses his way of coming to the shelf, almost as if he had dropped on to it with a *thump*) in a most positive and determined way, as if this were business he were engaged in, not a pastime, and most urgent business at that, business 'not to be entered into lightly or unadvisedly,' and also business that demanded haste. The other feeders always left as he arrived, apparently frightened temporarily by his hasty approach. They generally came right back and were left undisturbed. It was curious to see how the Titmouse always selected for his landing-place the very spot where there was another bird, who, fortunately, always flew away just in time to avoid the collision that seemed inevitable. The Juncos and the Jays were alone undisturbed by him, the former through trustfulness, the latter through fearlessness. If, on the other hand, a Jay arrived while the Titmouse was feeding, the first-comer left, but only to return very soon, when the two fed together amicably. In December the Titmouse invariably drove off a lone Myrtle Warbler that lingered here till the day before Christmas, as if to inform him that it was high time he went south, and trying to assist him in that direction. A pair of Cardinals (and they alone will feed while the great hulk of a gray squirrel occupies so large a portion of the shelf) neither disturbed nor were disturbed by the Titmouse. One day in May a Downy Woodpecker endeavored to have the piece of suet to himself, but the Titmouse refused to countenance such selfishness, and persisted in sharing the lump with him, where together they fed on it.

On February 22 (he associated himself with me on great days) he flew through the door of a glass-enclosed porch which opened out close to the shelf. In attempting to escape he stunned himself badly against the panes, and when I lifted him up he was limp, as if lifeless. I held him in my hand, took him indoors and held him over a warm radiator, but the little eyes closed and I was evidently to be present at his death. But no, he suddenly revived, and after I had dipped his bill in some water, his resurrection reached such an active stage that I had difficulty in holding him while I placed a band around his little leg, (No. 44300); and in a few minutes he was released to the great out-of-doors. Sitting on the edge of the porch roof he preened himself and seemed to try to recall just what experience he had been through that made him feel so queerly. Whether memory got in its work I do not know, but in half an hour he was whistling cheerily and was back on the shelf for food.

On the last day of January, 1919, I wrote: "The Titmouse, from the top of an oak (he seldom rises so high), is singing away this morning, with notes

that resemble *twee, twee, twee, pst!*—the last of the four being sharply staccato and almost explosive. (Later, April 29: The last note of the *tchee, tchee, tchee, tchip!* when heard nearby resembles the sound made by striking a 'twangy' banjo string, though it is neither so loud nor so strident.) This is varied by a *dee, dee, dee,* (more exactly *tee, tee, tee*)." And I was to hear these songs and notes and whistles frequently during the coming months. On March 5, I heard also what I described at the time as "a sweet, summery song, quite different from anything I have heard from him before, with, however, enough of a resemblance to the notes recorded under date of January 31 to enable me to guess the singer before I saw him." And once again: "The Titmouse is now constantly uttering his notes that sound somewhat like a young barnyard chicken."

In April he left us; at least he was neither seen nor heard for several days. We thought he had gone south to find himself a mate and companion, as for a year he had been absolutely alone. On the 14th a telephone message informed and assured me that he had returned, and that he had brought a mate with him! The next morning I was waked at 6 o'clock by his whistle outside my window; and I was conceited enough to think that he was calling me to see his bride. "Away to the window I flew like a flash," and there he was, but alone. On the 16th, however, I saw them both, and on the 17th they were together on the shelf. At first I could hardly distinguish them, but in a short time their differences, though hardly definable, were distinct; and of course they were confirmed through the glass by the band I had placed on the male. The most visible difference lay in the fact that the rufous sides of the female were slightly paler than those of the male. She also seemed of a less nervous disposition. For further and rapid identification, there was one tail feather of the male that was awry, and appeared so loose that I was always surprised to see it still in his possession. I always expected it to fall off, but it never did.

The next thing now was to secure a nesting record for this locality, and to compete with Rockford, some sixty-odd miles due west, but away from the chilling effects of Lake Michigan. The pair continued to be seen and heard often, but less and less often, till we felt certain they must be building a nest somewhere. I trailed them often, but always in vain; I could find no trace of a nest. Finally we were informed that it was quite certain the nest was nearly a mile away in the north end of the town. So to the place designated two of us went one morning, and were shown a hole in the top of a six-and-a-half foot pole in a small, unkempt yard, not fifteen feet from a small house, which in itself was situated thirty or more feet in the rear of another house. In the other directions were open fields, in one of which baseball was played on Saturdays and after school hours of the other days of the week. We were informed that two birds which seemed to fit our description of the Titmice had been frequently seen flying in and out of this hole. Earlier in the season a pair of House Wrens had started to build there, but were driven out by the

newcomers. But,—how full life and bird-study are of 'buts'!—we were told: "It's a pity you did not come sooner, for yesterday the neighbor's cat climbed the pole, reached a paw into the hole, broke one egg, and carried off the sitting female—escaping with her just as I came out and caught her, but too late." We corroborated the sad story as well as we might, for as I reached in my hand there were found six eggs, one of which was broken, and all of them cold. The eggs were all very fresh (this was on May 12), and were laid on practically nothing but the bare floor of the hole; what the books call a nest of "leaves, moss, strips of bark, feathers, etc." was hardly existent in this case.

For about six weeks after this the lonely male was heard often and seen but occasionally, and (though this may have been due to my imagination) the cheery whistle had a plaintive tone that had not been in it before. By the end of June he was much oftener heard than seen, till he became little more than 'a wandering voice'; and before the end of June he was gone, to be heard or seen no more. Where is he now? Will he have more domestic success this season? I wish him luck, though he be no longer in my neighborhood, and I thank him for the fourteen months of his acquaintance.

YOUNG CEDAR WAXWING
Photographed by Sheridan F. Wood, West Lafayette, Ohio, August 24, 1915

A Hummingbird Story

By WILBUR F. SMITH, South Norwalk, Conn.
With Photographs by the Author

FEMALE HUMMINGBIRD BROODING

FOUR of the Ruby-throated Hummingbirds' nests that I have found were built on branches hanging out over the water of a stream or pond. Three nests were on red or silver maple trees on lawns, and four more in some orchard or wood. I had begun to believe that I knew something of the sort of a place a Hummingbird would choose for a nest, or that lichens added concealment by making the nest look like a 'mossy knot,' as we have all heard, but my opinions were rudely upset the past summer by a pair of Hummers who emphasized anew that it is unwise to make a positive statement of what any bird will or will not do.

A lady who had been reading in a hammock swung from the porch roof noticed a Hummingbird dart in and out of the veranda; as she left the hammock something dropped from the sliding block regulating its height and she was surprised and grieved to find it a partly built Hummingbird's nest. It was small wonder that the birds were concerned, while to have a pair of these dainty birds choose one's veranda for a home and then unintentionally to tear the nest from its position was indeed a tragedy.

The nest was gently replaced and pinned in position, the cushions removed from the hammock, that the birds might have the whole porch and welcome if they would only return and continue nesting. As though nothing had happened they continued building the nest higher, fastened it to the block with spider threads and the pin was removed.

On June 2, or four days later, the first egg was laid, and, after an interval of a day, the second egg was laid. The nest was still so shallow it seemed as though the eggs would roll out as the hammock swung in the breeze. The young hatched on June 15, after eleven days' incubation, during which time the nest was built higher. The male had disappeared sometime before this and was not seen again, leaving all the work of the nest and the caring for the young to his mate.

On July 2, the young were filling the nest to overflowing, and as all the authorities I could consult said the young left the nest in from 'ten days' to 'about three weeks,' they might leave any day. Whether or no this was an

exceptional nest, or inclement weather made more brooding necessary with less time to search for food, thus retarding the growth of the young, is an interesting question; or possibly the earlier authorities may have been mistaken when they said the young leave in 'ten days.'

At any rate, on July 10, they were still in the nest and were taking turns standing on the edge and trying out their wings. The next day they seemed as large as their mother, and their plump little bodies protruded over the flattened edge of the nest and they tried their wings more often.

YOUNG HUMMINGBIRDS ON THEIR TWENTY-SEVENTH DAY IN THE NEST

On the morning of July 12, twenty-eight days after hatching, one of the young had left the nest and the observer took up a position to watch the second bird's home-leaving.

Soon the mother bird came with food, and, after feeding, tried to coax the young one away; failing in this, she took the bill of the little one in her own bill and three times tried to pull it from the nest, but without success; finally she flew away. Soon after the young one raised itself in the nest and flew like a bolt to what had been a favorite perch of the mother on the rhododendron bush on the lawn.

Mrs. Hummer was a much surprised bird when she returned and found the nest empty, but she soon joined the young one and a moment more they both disappeared, leaving an empty nest.

Mount Mazama Bird Notes

By LESLIE L. HASKIN, Lebanon, Oregon

THE subject of bird-life zones is one of absorbing interest. Just why the difference of a scant 100 feet in height should appear to be an impassible barrier to one variety, when 10,000 feet makes no apparent difference to another, has always been a puzzle to me. We of the West, where a comparatively few miles often mark the difference between warm humid sea-level, and perpetual snow-capped mountains, have an especially favorable opportunity for studying such matters, and it is a subject of never-failing interest to the writer.

Having these things in mind, when an opportunity presented itself of

visiting Crater Lake and the surrounding mountains, I anticipated great pleasure in observing just which of the familiar valley birds would be found at these high elevations, and what peculiar mountain species might be met with.

Our trip of eighty miles from Medford, Ore., to Crater Lake, gave few opportunities for bird-study, but in plant-life it presented a remarkable panorama. Beginning with the greasewood and manzanita of the lowlands, we passed in succession through growths of oaks, yellow pine, sugar pine, Douglas fir, hemlock, chinquapin, lodgepole pine, and spruce, ending with the scattered, and curious white-barked pine, and noble and alpine firs near the summit.

From the entrance of the park to Anna Springs Camp, no birds were seen, but at Anna Springs, at an elevation of about 6,000 feet, there was a flash of blue through the pines, and, with his loud, familiar *chack-a-chack-chack-chack*, a Steller's Jay sailed saucily out to meet us. So here at the very beginning an old Jay problem was before me, for why should this bird, a familiar companion in mischief with the California Jay in the low valley thickets, be so much at home here among the peaks, hobnobbing, as we later learned, with the mischievous Oregon Jays, which in turn appear to be unable to exist below a certain invisible line on the mountain-side?

Passing up the Munson Valley, Western Robins, and Oregon Juncos were everywhere in evidence. The Juncos' nesting season was barely past and the birds were in flocks containing a large percentage of striped and speckled young in their first plumage. A little farther on, near the camp of the government engineers, a couple of male Western Tanagers were seen chasing one another through the tree-tops. We of the valley who raise fruit sometimes claim that the crimson head of this gay bird comes from his ravenous appetite for cherries, but these mountain birds were as bright as any that I have seen, so no doubt the cherry juice theory is a mistake!

Even if there were no Crater Lake at the end of the road, this Mount Mazama region would be well worth a visit. Nowhere will you find more curious cañons, pleasanter mountain valleys, wider vistas, or more beautiful and varied forests. Up and up we went, while off to the southeast the wide low lands of the Klamath country opened out before us in the purple distance, now clearly defined, now hidden in haze. Up and still up until the engine beneath us began to wheeze and gasp in the rarefied atmosphere, and we realized that this was no place for a car with a weak heart, but finally the last grade was conquered, and we stepped out on the vast encircling rim of the old crater.

This is a bird article, so I am not going to attempt to write a description of Crater Lake, only this I will say: It has been my observation that whenever men and women attain to a little height, whether it be the limbs of a tree, the top of a building, or the summit of a hill, they invariably express their sense of accomplishment and exaltation by calling at the top of their voices, yet during my stay at the lake I did not hear a single hello or yodle.

It is too immense, too imposing. The most inveterate screecher realizes the futility of raising his voice in that vast space. The lightest breeze would snatch away all that man could do, and bury it among the cliffs under the humming of the pines. 'A Sea of Silence,' Joaquin Miller called it, and a sea of silence it ever remains.

The birds about the lake are not silent, however. Most of them seemed unusually voluble, though this may have been only by contrast. It seemed that I had never heard Red-breasted Nuthatches so full of chatter. They were to be found all about the rim, clinging to the tips of the snow-bent pendulous branches of the evergreens, flitting everywhere in companies and regiments. These little red-breasted fellows are much more a bird of tree-tops, and slender twigs, than their relative, the Slender-billed Nuthatch, which is more addicted to tree creeping. With the Nuthatches were a considerable number of Oregon Chickadees, but in not nearly such large numbers. Red-shafted Flickers were common, and all about the timbered portions of the Rim Road, the ringing, metallic call of Harris's Woodpecker could be heard. These varieties seemed to stay well up on the rim; none were seen within the crater itself, though, of course, my stay was short, and this may not be the rule.

The government engineers were just completing a new trail from the summit when we arrived, doing away with the old, dizzy zig-zag, and the use of ropes in descending. Here you encounter the first preëminent mountain birds. Clark's Nutcrackers are met with all along the trail. They fly up and down the cliffs in noisy bands, calling much attention to themselves by their harsh notes, and striking black and white plumage. Abrupt rocky points appear to be their delight, where they congregate to feed on pine cones, hammering out the seeds with a great show of strength and vigor. In their flight they make a great to-do, with the whirring and clapping of their wings. Few birds seem to enjoy life more or fit into their surroundings more perfectly, than these handsome Crows.

Only two kinds of Warblers were seen on this trip within the park itself. Audubon's Warblers were found in numbers in the open timber back of the rim, and another, which I believe was a Macgillivray's Warbler was seen among the brush along the cliff trail. Farther down along the trail a Hummingbird was seen, but we were unable to determine of what variety. Besides, this, a single female California Purple Finch eyed us shyly from the low limb of a tree on our first descent.

Until this trip, I had attributed a great deal of the American Dippers' peculiar preferences and habits to the fact that only swiftly-moving water furnished the food on which they thrived. Nothing, however, can be more quiet and serene than this sapphire mountain lake, which lies undisturbed, without a single stream, either entering or leaving it, to break the quiet of its shores. Yet here were the Dippers, bobbing and swimming along its margin. Why then can they not make a living equally well about lowland streams and ponds

where vegetable and insect life are so much more plentiful? Among the rocks of Wizard Island, a little later, a Spotted Sandpiper greeted us with his familiar *teeter* and *peep;* why could not the Dippers, which seem to have adopted so many Sandpiper traits, also have learned from him to adapt themselves to low as well as high altitudes?

Although it was August all about in sheltered places on the cliffs could be seen patches of snow. One of these near the water's edge lured us over to the west shore of the lake. Rowing leisurely along under this last winter's snow-bank, we unexpectedly encountered a female American Merganser leading a band of tiny young out into the lake. Seeing us coming in her direction, the old one urged her fledglings on with anxious quacks. Supposing that they were doing their best, we began to wonder what they would do when we over-hauled them, but at a word of command from the anxious mother they all suddenly rose upon their very tails, and literally ran along the surface of the water. Even then we finally overtook them, when the old bird took flight, while her tiny followers, one by one kicked up their heels and disappeared beneath the surface, to pop up after an incredibly long time widely scattered over the surface of the lake. Seeing that nature was too sharp for us, we left them, and when last seen they were reunited and placidly following their mother about.

A climb to the summit of Wizard Island—this very symmetrical ash cone, a crater within a crater—was well worth the time spent, but resulted in only one new bird observation, a pair of Desert Sparrow Hawks, inhabiting the dead and stunted trees upon the circular rim of the shallow crater. Wishing to descend from the crater in the shortest possible time, we solved the problem by simply sliding down the smooth cindery slope, a method very saving of time, but scarcely so of clothes.

No sketch of Cascade Mountain bird-life would be complete without the friendly touch of familiarity lent by the soft-plumed Oregon Jays, which shared our meals during our entire stay. Whenever the grub-box was opened, they would come flitting about with soft-voiced whistles, lighting upon the tables and benches, and helping themselves to whatever scraps of food were obtainable. Of all the Jays, these 'camp robbers,' in spite of their reputation, appear the quietest and most trustworthy. As I have observed them, they seldom indulge in the loud cries and scolding of other Jays.

Few other varieties of birds were seen during our stay in the park proper. A few American Crossbills were heard flying over, Pine Siskins were quite plentiful at times, and, one of the surprises of the trip (for I had never thought of this bird being partial to high altitudes), a Black-headed Grosbeak was seen at the head of the Rim Trail. However, on our return trip we camped for a night within the Crater Lake National Forest, at an elevation of probably 5,000 feet. Here, where the upper Rogue River roars and tumbles through a cañon which it has cut for itself through the volcanic rock, and where the

boulders of pumice along the bank, when dislodged, fall into the current and go bobbing down stream like corks, I encountered in a forest-opening an immense wandering flock of Warblers and Bush-tits. I have often encountered these mixed flocks in the foothills, but never have I met a larger one, or one more compact. I think that I watched them for fully half an hour, as they drifted past through the chinquapin brush. As far as I was able to determine, Bush-tits composed about one-fourth of the flock. Of the Warblers, there were three varieties: the Calaveras and Lutescent Warblers, combined in about equal numbers, constituted another scant fourth, while the remainder of the flock was composed of Hermit Warblers. As before this I had met but a single pair of Hermit Warblers, this early morning flock was to me an especial treat.

A single pair of Western Evening Grosbeaks, flying over just as we were about to start again, finished my Mount Mazama observations. It was a most satisfying jaunt, and, although I had learned much concerning bird-life zones, there remains underneath, and probably always will, a never-ending Why?

The Tree Swallow on Long Island

By J. T. NICHOLS, New York City
With Photographs by Dr. Frank Overton

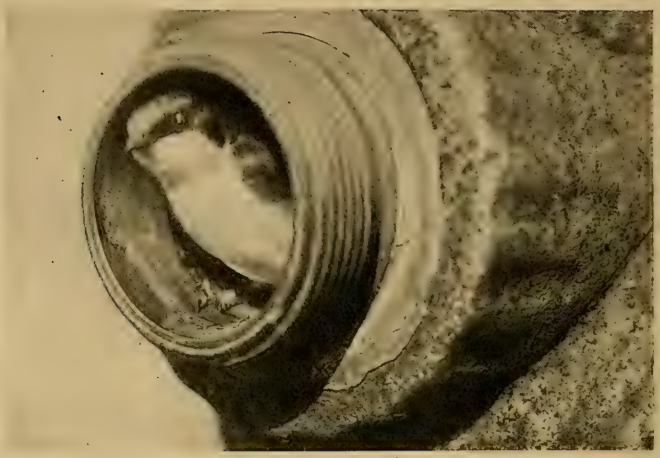
TREE SWALLOW AND ITS HYDRANT NESTING SITE

THE Tree Swallow ordinarily does not nest near New York City, where it arrives on its southward migration the beginning of July; but on the eastern portion of Long Island it is locally a not uncommon nesting-bird. The present note deals with its occurrence on the south shore of the island.

About June 1, 1912 (May 27, May 29, and June 2) Dr. Frank Overton, of Patchogue, found a pair going in and out of one of several old abandoned hydrants by the side of a road through deserted farm land overgrown with low pines. The opening to the nest was only a couple of feet from the ground. The hydrant in which it was placed was in East Patchogue, about one-half mile from Great South Bay and within 400 or 500 feet of a pond. The accompanying photographs by Dr. Overton were taken at this time. From him I learned that Tree Swallows nested at this spot in succeeding years, that in 1915 there were two or three pairs, and that formerly Bluebirds nested in the hydrants. He had not seen the Bluebirds for several years.

On June 15, 1914, the writer found his first Long Island Tree Swallow's

nest in a hollow stub overhanging a creek at Moriches. The old birds were carrying food to the young within, and it is a remarkable fact that one of these



TREE SWALLOW AT THE ENTRANCE TO ITS HYDRANT NESTING SITE

adults had the brown upper parts characterizing the immature plumage of this species. The accompaning photograph of this nest was taken on June 20. I believe that this nesting site was not occupied in 1915, but several Tree Swallows (probably two or more pairs) were seen nearby (at Mastic) throughout the summer, and probably bred. Though no nest has since been found, there have usually been a pair or two in the general vicinity each summer.

TREE SWALLOW AT NEST ENTRANCE
Photographed by the author at Moriches

At Mastic one does not look for a decided increase of Tree Swallows over individuals which may have bred nearby, so early as at localities close to New York City. The present season (1920), these southbound migrants were not noticed until between August 10 and 15. Neither do these new arrivals ordinarily assemble in the very large flocks common farther west. Yet a great many pass through in fall migration, swiftly, in straggling flocks or flights. Studying shore-birds on the marshes behind the dunes on clear autumn-like mornings, perhaps just as the September sun has

mounted high enough to impart a grateful warmth after the chill of dawn, two or three darting forms go by, one hears the diagnostic double note to right and to left, and for a minute or two there are Tree Swallows in every direction, streaming past into the West like snowflakes before a gale. After early October the occurrence of the species is sporadic.

A majority of the birds must go north in spring by some different route, as they never seem to be numerous at that season, We know of no earlier regular arrival date for Long Island than March 19. February 16, a date given in Eaton's 'Birds of New York' (from Dutcher), seems purely casual. In the fall any Tree Swallows seen later than November 25 may also be considered casual. Attention may be called to a record in the Christmas, 1919, Census, of one observed in a snow-storm on Gardiner's Bay, December 21, by Lord William Percy and Ludlow Griscom.

When one gets a good view of them, our different Swallows are well marked and easy to identify. They also present differences in size, flight and call-notes which one learns to recognize. However, it may aid in the determination of a bird darting by at a difficult angle, to call attention to the white on the Tree Swallows' flanks, which encroaches on the dark upper parts in front of the tail so as to be conspicuous. The Tree Swallow also has an angle in the posterior outline of the wing unlike the other species, as though the primary feathers projected more abruptly beyond the secondaries.

THE KINGFISHER'S CAVE
Photographed by Walter A. Goelitz, Ravinia, Ills.

Notes from Field and Study

An Exhibit of Ornithological Art

The Local Committee for the meeting of the American Ornithologists' Union to be held in Washington, November 8 to 11, plans to hold an exhibit of ornithological art. Numerous bird painters and photographers have promised to contribute and all are invited. The Local Committee will pay transportation charges on pictures, if desired, will exhibit them under glass in a fire-proof building, and will be responsible for them from receipt until return shipment is made. Six pictures will be allowed each contributor. Gray mats should be used so far as practicable and photographs should be arranged on mats of suitable size for 11 x 14 pictures. If you have any pictures suitable for this occasion, and have not been approached directly by the Committee, consider this notice an invitation. Pictures should reach Washington in October, and will be on exhibit through the month of November. For further information address W. L. McAtee, Biological Survey, Washington, D. C.

Bird Notes from Victoria, British Columbia

Read before the Natural History Society of British Columbia

STELLER'S JAY. A most curious and unaccountable invasion of the city and suburban districts by Steller's Jay is recorded in the following letter which recently appeared in the public press:

Oct. 23, 1919.

SIR: The curious invasion of the city and surrounding districts by the Blue Jay is attracting the attention of everyone, especially those interested in bird-life. They are to be seen everywhere, in gardens, and in the parks and even invading the streets of the suburbs in some places.

In all my experience, and that of other observers with whom I have spoken, a similar instance of this singular invasion cannot be recalled. Naturally the prophets are busily predicting a hard winter and other disasters.

The Blue Jay is amongst the handsomest of our native birds and his cheerful note, although not musical is most pleasant and I sincerely hope that his peccadilloes in the shape of picking holes in apples and carrying away small potatoes will be overlooked and that he will be left unmolested.

J. R. ANDERSON.

Various opinions have been hazarded as to the reason for this abnormal appearance of this bird in cities, etc., when their usual haunts are in the thickets and woods. These haunts are preferably adjacent to farms and other open spaces where their usual diet of wild fruits and seeds of the fir cones may be supplemented with unconsidered trifles of potatoes, peas, etc. The most plausible theory is that there is a scarcity of fir cones. Be that as it may, the Steller's Jay has certainly made himself at home in the environs of the city and town and appropriates such scraps of food as are available. But a most curious fact in this connection is recorded by a gentleman who has a place in the country about four miles from Victoria, which he frequently leaves untenanted for a few days. On a recent visit he found that the putty had been carefully removed from most of the windows. He soon discovered that the culprits were Steller's Jays, of which there were many in the vicinity. He observed that the birds even ate the putty. He shot one and hung it up as a warning to the others, but this did not stop the thieving. On repairing the windows the putty was painted black, but this did not have any effect as the birds still removed it. I should add that I am not personally aware that the seed from fir cones forms any part of the Jay's diet, but I have seen it so stated in an evidently authentic publication. The scarcity of fir cones is reported from Spraot Lake where apparently on that account the squirrels and Blue Jays

invaded gardens, in order to pilfer apples and small fruits, but I have not been able to ascertain whether these conditions are general.

Brewer's Blackbird (*Euphagus cyanocephalus*). Mr. A. S. Barton, who is a keen observer of bird-life reports noticing an exceptionally large flock of Brewer's Blackbirds following the plough in a field near Victoria in company with a number of Crows, reminding him of Rooks and Starlings in the old country. It would have been interesting to have examined the crops of these birds, though there is little doubt that they were feeding on the grubs and worms that were being exposed to view. These birds appear to be increasing as more land is brought under cultivation. A few years ago they were seldom seen here, and never in such large numbers as at present. I myself can corroborate this. The bird has, however, been quite common on the mainland in the vicinity of the Fraser River.

Northwestern Crow. The usually much execrated old Crow is present, as usual, in great numbers. Papers have been written in condemnation and defence of this sagacious bird, but without any real decision as to whether his sins are not condoned by his industry in hunting out the enemies of the farmer and horticulturist during the many months when damage by him cannot be done. He is an amusing fellow in many ways. To watch him digging up clams on the sea beach, soaring aloft with them and dropping them upon the jagged rocks below as far as possible from his astute neighbor, and swooping down to pick up the exposed mollusc when the shell breaks, is an education in itself.

An incident has been related recently about a Crow who had his claw caught by the clam he had picked up. As he was unable to fly well he was easily captured. Another Crow found a hard crust which he could not eat. He took it to a puddle of water and after trying its coming softness several times, was soon able to gobble it up. They are to be seen in the vicinity of suburban schools patiently waiting about for the bell for school after lunch, when they dash down and clear up the crumbs.

California Quail. This bird was introduced some years ago and has made itself at home and has freely taken possession of the vacant lands, parks, etc., and prohibited shooting areas near Victoria. The Scotch broom, another exotic which grows in great profusion around Victoria, is a favorite haunt of the Quail, affording shelter and food supply. It is only with the greatest difficulty that sportsmen are able to drive them out to be shot.

English Song-birds. With the single exception of the Skylark, some of which are seen in the vicinity of Victoria every year, it would seem that the well-intentioned scheme of the Natural History Society and the expenditure of several hundred dollars in 1912 were of no avail in the successful introduction of the English song-birds which it was endeavored to bring out from England.

The chief trouble in the matter was the miserable shipping arrangements by which the birds were huddled up in the bow of a freight steamer through a stormy passage of sixteen days. This weakened the little birds so much that they were unable to withstand the long train journey across Canada, and more than half the birds had succumbed before they reached their destination; the remainder, greatly weakened, have apparently all succumbed, though some of the English Robins have been reported at various times, such as 'killed by cat' or 'nest raided by Crows.' Perhaps, too, the absence of water during the hot summer months, which is so essential both for the bath and for drinking purposes, may have been a contributing cause. Mr. Barton advances the theory that while the imported game-birds all indulge in a dust bath, the English song-birds, like the typical Englishman, cannot thrive without their daily bath, but it must be in water.

Capercaillie (*Tetrao urogallus*). An apparently authentic report has been made by the Society's president, A. R. Sherwood, that a hen Capercaillie had been seen this last summer at Pitt Meadows

by a well-known sportsman, who is thoroughly conversant with this bird and who was present when a shipment was turned loose several years ago in an attempt to acclimatize it. W. F. Burton, however, expresses grave doubts regarding the reported existence of Capercaillie at Pitt Meadows as this bird only frequents the highest peaks and the fir trees.—J. R. Anderson, Victoria, B. C.

Record of a Feeding Station

On September 10, 1918 I set out to select a spot for a bird feeding-station. Two things were taken into consideration before the final spot was chosen. It would be necessary to visit the feeder almost daily, so it would be a great convenience if I could find a suitable place near my home. Cobb's Hill was selected, and a spot in the 'Dingle,' in the center of a small patch of trees, sheltered on the south by a bank and by trees on the other sides, was thought to be the most suitable. Previous to this time Pheasants, Hairy and Downy Woodpeckers, Tree Sparrows, Juncos, White-breasted Nuthatches and Chickadees had been seen here in small numbers and I hoped to attract a few of these species.

From a neighboring field I procured some cornstalks which I piled together in the form of a tepee with a large opening in front and a small one in back. I then placed some suet in the crevices of the trees and scattered some small pieces on the ground. Next some mountain ash berries, staghorn sumac, wild grapes and apples were placed in the trees and bread crumbs were scattered on the ground. When I arrived the following day most of the suet on the ground was gone and that in the trees had small holes in it where the birds had pecked it. Soon a Chickadee lit near some suet on the apple tree in front and began feeding and then a Catbird was noticed feeding on the grapes in the tepee. Presently a chipmunk came from a crevice in the rocks and commenced eating the remainder of the suet that was on the ground, so thereafter the suet was tied to the trees; later a Crow was seen flying from the feeder with a large piece in his bill. I now nailed some quarter-inch wire mesh on a board, bent over the sides and top and placed the suet inside. A food-tray and an automatic feeder were added later and the place began to assume the appearance of a feeding-station.

During the winter I tried continually for pictures, but as the trees were so thick, the light was very poor and the results were not very satisfactory.

A Great Blue Heron was seen in the trees above the feeder on January 13. As the winter was a rather open one, he may have stayed in a near-by swamp, but he was not observed after the above date. Pheasants were seen all around the place but none were seen feeding. Tree Sparrows were noticed occasionally near the feeder but none were observed to feed. Chickadees came to my hand for food first on November 11, and since then I have had no difficulty in getting them to do it whenever I attempt to.

The following is a list of the foods supplied and the birds observed feeding on them. The birds marked with an asterisk stayed all winter.

Suet.—Hairy Woodpecker,* Downy Woodpecker,* Crow,* Slate-colored Junco,* Fox Sparrow, Catbird, Brown Creeper, White-breasted Nuthatch,* Black-capped Chickadee,* Golden-crowned Kinglet.

Hemp Seed.—White-breasted Nuthatch, Black-capped Chickadee.

Millet Seed.—White-breasted Nuthatch, Black-capped Chickadee.

Bread Crumbs.—Song Sparrow,* Black-capped Chickadee.

Sunflower Seed.—Downy Woodpecker, Slate-colored Junco, White-breasted Nuthatch, Black-capped Chickadee.

Oats.—Slate-colored Junco.

Wild Grape.—Catbird, Robin.

Sumac.—Hairy Woodpecker, Downy Woodpecker, Catbird, Brown Thrasher, Brown Creeper, Black-capped Chickadee.

The past winter, 1919–20, I continued the feeder and found, in addition to the above, the following list.

Hemp Seed.—Tree Sparrow, Slate-colored Junco.

Suet.—Red-breasted Nuthatch.

Millet Seed.—Tree Sparrow.

Bread Crumbs.—Downy Woodpecker.

Sumac.—Pheasant, Slate-colored Junco, Robin, Bluebird.

Chaff.—Slate-colored Junco, Black-capped Chickadee.

Whole Corn.—Pheasant.

Lard.—Downy Woodpecker, Black-capped Chickadee.—RICHARD M. CHASE, Rochester, N. Y.

Red-throated Loon at Branchport, N. Y.

The harbor at Branchport is cut off from the rest of Lake Keuka by a long sandbar through which a channel has been cut to enable the boats to enter and leave the harbor. There is enough current flowing through the channel to keep it free

RED-THROATED LOON
Photographed by Verdi Burtch, Branchport N. Y., Feb. 18, 1918

from ice even in the very coldest weather, and I frequently find wild ducks there and occasionally a Holbœll's Grebe.

February 8, 1918, I found a Red-throated Loon in the channel and I was told by some fishermen that it had been there for two or three days. It was rather slow in its movements, did not dive at all and kept to the opposite side of the channel from me. There was a female Canvasback and a female American Scaup Duck with it in the channel but they flew away as I approached. The Loon did not attempt to fly or to dive, but when cornered would slip by and swim rapidly to the other end of the opening. It stayed in the channel the next two days, but when I went down there on the 11th it had left and it was not seen again.—VERDI BURTCH, *Branchport, N. Y.*

Yellow-crowned Night Heron in New Hampshire

It may interest you to hear that I saw a Yellow-crowned Night Heron feeding with some Black-crowned Night Herons on the mud flats in Portsmouth, N. H., July 8, 1920. There was no question about its identity. The bird was in adult plumage and I had my glasses on it at fairly close range. Finally it was scared up by a passing boat, and alighted in a pine tree some thirty feet from where I was sitting.—JOHN T. COOLIDGE, JR., *Portsmouth, N. H.*

Brave Quail

It is interesting to note how the shy birds' fear of man changes with the seasons. Early in July when I was hunting along the edge of upper Barnegat Bay, N. J., for good picnic ground, I heard a Quail give the *bob-white* call a little distance away in the scattered pine timber. I went inland a few paces, then sat down behind a tree and whistled the female note, which brought a quick answer, soon to be repeated several times and nearer. Then I saw the bird, a fine male, run across an open patch of sand about twenty feet distant, as if he had not correctly placed the whereabouts of the call. Another whistle, low and very short, brought him like a cannon ball right past my face, where I firmly believe he would have hit had his eye not recognized a possible enemy in time. Believing that now the bird would leave the neighborhood I stood up and was much surprised to hear another *bob-white* close behind me. Quickly stepping into the bushes I flushed him, then returned to the picnic party the members of which were making merry not far away.

Now and then I made a poor attempt

at a call,—sandwiches interfering a good deal—and before long a movement in the grass caught my eye and two male Quail appeared running, one behind the other, at remarkable speed. In and out and around the bushes they dodged, one passing the other unerringly but without being able to lessen the distance between, which for fully two minutes was just about one foot. They ignored the picnic party entirely and came within a few feet of the bright fire. The agility of the birds was astounding as well as was the length of time they could keep up the pace.

At length one chased the other a reasonable distance away and then returned to within a few yards of me and whistled most happily. I felt the least bit sorry at having deceived him and did not answer for a time. First he would *bob-white* and then the other would give his call from another direction. This would arouse the first and he would come running to within about ten feet of me, the whistle becoming positively annoying. He would then fly about twenty yards and run back very quickly.

The only time the birds were silent was when a Bald Eagle chased a Fish Hawk screaming over the tops of the trees. After that one call brought them both into low trees pretty close to the picnic fire where they called until night came on, refusing to be driven away for any length of time, although out of curiosity I chased them twice.

In the far South one sees coveys of Quail that are tame because they have not learned to fear man; but this is the first time I have seen the wily Jersey bird show fearlessness. Doubtless when the covey paired off in the spring these two lonely birds were left without mates.—J. W. Lippincott, *Philadelphia, Pa.*

A Migrant Yellow-bellied Flycatcher

On July 30, 1920, the writer picked up a dead bird on the sidewalk near his home, which was later identified as a Yellow-bellied Flycatcher. Is this a very early fall record for this species, or do these birds slip by at this season unnoticed? I had seen no other migrating Flycatchers or Warblers at that date.—C. H. Bush, *De Kalb, Ills.*

House Finches Eat Salt

Until last summer I had always been led to believe that salt was poison to birds, but at that time I found that to the House Finch, at least, it is not.

Just across the street from my home is a small pasture lot. Often when sitting on our porch I observed one or more House Finches alight on the wire of the fence and then drop down among the grass, always at the same spot. At length my curiosity was so aroused to know what was attracting them that I went to investigate. The only unusual thing there was a block of pressed salt and sulphur that had been put in the pasture for the benefit of the little bossy that grazed there.

This block, I discovered, was riddled with small cup-shaped holes, quite different from anything likely to be made in it by a cow's tongue. Later I frequently saw the Finches pecking away at the salt and apparently swallowing it. All spring and summer they kept this up, until by fall the chunk was worn away almost entirely; and I had good reason to believe that the birds had devoured more of it than the cow. That it had no ill effects upon them was evinced by the apparent health they displayed, and the fact that I never discovered any dead or ailing birds in the locality.

So far as I could see, House Finches were the only birds attracted to the salt.—Esther Reeks, *Boulder, Colo.*

The Waxwings' Rag Bag

For several years a pair of Cedar Waxwings have built their nest and reared their family just at the edge of the woods on my little farm in New Hampshire. Each season I have tried to assist in their home-making by placing bits of string and strips of cloth at their disposal. At first, the birds were shy and used these things rather

sparingly, but each year on examining the nest after the birds had left, I found that gradually they used less grass and more of the material I put out for them.

Each season found my Waxwings more friendly, and it was with even greater pleasure than usual that I heard the first plaintive whistle of my little friends, and saw their bright little eyes piercing down at me, as I was working in my garden one morning in June, 1919.

They spent some time in deciding upon a site for their new home, and I was delighted when they finally chose an apple tree about fifty feet from the house and directly beside the garden where I could watch them so easily.

I immediately began putting out string, as usual hanging it upon a clothes line on the back porch. Within half an hour the Waxwings spied it and began carrying it to the apple tree. They made no efforts to collect twigs or any other nesting material; it was quite evident that the string was more to their liking and easier to secure than anything else; or perhaps they were tired of the old, conventional way of house-building and welcomed a change.

Once, a third Waxwing, who had been watching the proceedings, flew down and attempted to carry away some string on her own account. Then what a scolding ensued, until the intruder was finally driven away—without the string.

My supply of twine threatening to become exhausted, I began tearing old cloth into strips about one-half an inch wide and from five to twelve inches in length. This, the birds liked even better; and they at once redoubled their efforts. How fast they worked, and what yards of cloth they used!

For three days their little whistle was the first thing I heard in the morning; and it seemed as if I had no sooner hung out dozens of strips of cloth, than they were gone, and my birds were swinging on the line eyeing the kitchen door, and coaxing for more.

I experimented with colors, and although they apparently preferred white, they did use several strips of bright pink outing flannel when the supply of white cloth was low.

Surely, baby Waxwings never had a softer or a more conspicuous nest. Pink and white rags floated gaily forth, from among the green leaves, and passersby frequently stopped to comment on the unusual sight.

We called it 'The Waxwings' Rag Bag'; and after the little family had left for warmer lands, we carefully sawed off the limb of the apple tree, and a nest which promises to rival all the others was added to a large collection.—MARY B. BENSON, *Everett, Mass.*

Peculiar Song of a Red-eyed Vireo

To those interested in the songs of birds, and especially in the notes one species sometimes borrows from another, the following incident may be of specia interest.

June 20, 1920 I had been making a list of species seen for the day, and in the afternoon, hearing the familiar note of a Crested Flycatcher, I made a detour to get a sight of the bird. As I neared the tree whence came the notes, I became aware that a Red-eyed Vireo was also singing loudly from the same tree; but from the distance I first heard the Flycatcher's call; I could not hear the song of the Vireo. I stood near the tree some ten minutes in an endeavor to see the bird, but search as I could no Flycatcher was to be seen. The Vireo then attracted my attention by flying about two hundred feet to another tree and both voices ceased. I waited, still looking for the Flycatcher, when again the Vireo started to sing, and before many of his questioning phrases had been uttered I was surprised to hear the shrill *quirp* of the Great Crest come from that tree. My only thought was "Funny how he got over there without my seeing him leave." This happened twice more before I discovered the Vireo was uttering both songs and fooling me completely. I might have followed that phantom Flycatcher the rest of the afternoon had not the Vireo

come low down on a dead branch and shown me how he did it. I watched the bird some time after that and saw him throw his head up each time the Flycatcher note was uttered and then continue on with his regular song without any lost time in between; or in other words, the ordinary song of the Red-eye was simply punctuated at intervals by the high-pitched *quirp* of the Crested Flycatcher. A pair of the latter had been in the vicinity all the spring but were neither seen nor heard that day. —E. A. Doolittle, *Painesville, Ohio.*

Yellow-throated Vireos

One day in the middle of June, a 'function,' seemed to be at its height in the old tree at the corner of the house, and I discovered eight or ten olive-green and yellow songsters fluttering and singing among the lower branches, evidently intent upon pleasure alone, and the contralto chorus from so many voices seemed in some way to be suggestive of Mendelssohn's Wedding March.

And a wedding it must have been, for after that joyous occasion only two of the flock were seen in the tree. They grew daily more untiring both in labor and song, incessantly repeating their richly sweet dialogue: "Here I am, see me? Where are you?" with an occasional burst of trills wholly untranslatable.

Search that tree as I might, inch by inch, and with strong glasses, it was not until the Fourth of July that I discovered that what had appeared to be a dried leaf was the cleverly constructed basket cradle of the Vireos. There, about two feet from the end of the lowest branch, but well out of reach of marauders, swung between two horizontal twigs with its bottom resting on the branch, and almost concealed by overhanging leaves, was the handiwork of the second-best bird architects (the freely swinging nest of the Baltimore Oriole deserves first place), and over the edge peered two brightly curious but fearless eyes of Madam Vireo. While I watched there came the mate with a morsel for her refreshment.

Eager to test their reputation for friendliness, I tacked to the end of a stick a tiny tin cup filled with moistened crumbs. To my unspeakable delight the very first time the cup's contents were offered, the bird on the nest stretched her charming little head over the edge and ate with relish; soon came the male, and alighting silently on a near-by twig thrust his bill into the cup again and again!

On closer inspection the nest looked like a diminutive cap fashioned from birch bark, the greyish white appearance being due to scraps of printed newspaper firmly laced into place by long slender grasses. It needed but a couple of days' watching to learn two of the Yellow-Throat's habits: first, never was the nest left alone for a moment during incubation, the two birds sharing equally their duties, both of sitting on the eggs and keeping the dainty home in repair and well cleaned; the other habit was the strictest silence when near or on the nest; even when a note of warning was thought necessary it was given from a distant branch. To be sure the days of song were past, for now the serious business of housekeeping and rearing a family was all-absorbing, and it became a rare treat to hear the male give voice to his joyful satisfaction with events. I noticed that although he chose a perch far away, it was within sight of the nest.

I had never seen a small bird dare a personal encounter with a four-footed enemy, and knowing the Vireo's habitual silence I was surprised one day to hear loud, unmistakable scolding notes. I hastened to the back porch and saw a great black cat on the fence just below the nest, and although it was not near enough to do any harm, both the little parent birds seemed to be in danger of splitting their throats, and in addition to their torrent of rage, the male was making swift, straight dashes almost into the face of the enemy, who, satisfied of the uselessness of any attempt to attack that nest, leisurely walked away to the end of the fence. It was some time before the excited little fighter grew calm; he flitted about the nest, making no pretence at gathering

food, and must at last have persuaded his lady that he was the better guard for the home when danger threatened, for presently she flew away and within the instant he took her place.

A proof that they knew their friends was given me that very night, for mounting a stepladder with my usual evening gift, my head was on a level with the nest and less than two feet away as I proffered the tin cup, this time in the palm of my hand, to the bird at home, which, perching on the edge of the nest, gave me a first glimpse of three tiny open bills, for the babies were there. But only food gathered by themselves was fed to the young.

Daily watching and daily feeding my tiny neighbors so endeared them to me that I dreaded the time of parting, which I knew could not be far off; nevertheless I was surprised one morning to find the nest empty, and even the chance to investigate the interior of it in no degree compensated for my loss, and I am afraid I was inclined to feel that the Vireos *might* have said "Good-bye."

I found that the lining was as soft as down although woven of long slender grasses with an under and over regularity and evenness that is wonderful and rivals human needlework. They are weavers and tailors, too.

The nest was not quite empty, for a small, brown-spotted white egg remained to reveal the fact of one disappointment to the confiding little couple that I long to welcome again, and to whom I have tried to extend a cordial invitation by nailing to the old apple tree a box in which I keep a 'bird's luncheon.'—INEZ HARRINGTON WHITFIELD, *Hot Springs, Ark.*

A Railroad Robin

One small bird has attracted more attention on the line of the Harlem Railroad this summer than any of the beauty spots between New York and Chatham.

A ROBIN'S NEST ON A SIGNAL GATE. THE BIRD MAY BE SEEN ON HER NEST NEAR THE CENTER OF THE DISK

At the junction of the Harlem and Central New England, a few rods south of Boston Corners station, stand the old fashioned signal gates, and on the crossbar of one of these gates, with the big red disk for a background, the Robin built her nest and reared her family. This gate is swung from one position to another perhaps fifty times in twenty-four hours, and it would be interesting to compute the number of miles of free 'railroad transportation' the Robin has enjoyed. At night when the red light was placed in position, the signalman's hands were always within a few inches of the bird, yet in the face of all these seeming discouragements, she made this weird choice for a home-site, and stuck to her task of raising a family. The 'Railroad Robin' has been not only the center of interest among the railroad men on the Harlem, but she has been seen by thousands of passengers from the car windows. In the accompanying picture, the bird may be clearly seen on the edge of her nest, her head protruding just past the hole in the disk.—WARD W. ADAIR, *New York City.*

The Tragedy of the Ovenbird

One morning late last May, as I turned to come in from the front veranda of our house, I noticed a bird lying on the porch table. I went over and picked it up expecting it would prove to be an English Sparrow. To my surprise I found I held in my hand a male Ovenbird, It was in full spring plumage, there were no signs of hurt or disease, and the body was still limp and warm. As I held it in my hand stroking its beautiful olive-green back and, wondering over the mystery of this shy little wood-bird dead on the porch table of a city home, I suddenly turned my eyes to the double window before which the table stood and noticed that the tall trees in front of the house were reflected in this window almost as clearly as in a mirror. Had the little bird caught sight of his own image in the glass and taking it for another Ovenbird flown toward it in his impetuous fashion, striking the glass with force enough to kill it? Who can tell? — MRS. ARTHUR F. GARDNER, *Troy, N. Y.*

Nuthatch and Shrike

Among the many birds which fed during the winter of 1917–18 close to the bay window from which I watch them have been a pair of Nuthatches. A little before Christmas they suddenly disappeared for two or three weeks, and then as suddenly returned. Two or three days later a bird flew against the window. Looking up I saw an unfamiliar bird at the foot of a pear tree about twenty feet away. It circled the tree two or three times, giving me a good opportunity to study it. Then it flew straight up from the ground and began pecking at something in the crotch of the tree, throwing feathers thick and fast on the ground. After a few seconds a Nuthatch, evidently the object of the torture, flew from the crotch, the other bird pursuing it instantly. Since then only one Nuthatch visits me and appears very timid.

It was the tragic story of the Butcher-bird, but the peculiar thing to me is that the Shrike which I observed so closely answered much better the description of the Migrant Shrike of Reed's book than that of the Northern Shrike of the same author.

Is it possible that it could have been the southern rather than the northern species?—MRS. R. S. HULBERT, *Winsted, Conn.*

THE SEASON

XXI. June 15 to August 15, 1920

Boston Region.—Cool weather continued through June and well into July, the temperature, especially during the night, being so abnormally low that an unusual retardation in the growth of vegetation resulted. On July 1, reckoned by the blossoming of the common St. John's-Wort, the season was fully a week behind the average, and even a month later, judged by the blossoming of the earliest Goldenrods (*Solidago juncea* and *canadensis*) the season was no less backward. The delayed progress had apparently little or no effect on the breeding activities of the birds; with few exceptions (e. g., the Brown Thrasher) the song-periods ended at the normal time and the call of the fledgling Baltimore Orioles was heard as usual by June 25. This note of the young Oriole, one of the most characteristic sounds of early summer, is far less common with us now than it was even ten years ago, although there is no noticeable diminution in the number of breeding Orioles.

Birds in general seemed rather more numerous than they were last year: Rose-breasted Grosbeaks were never commoner and the Vireos showed an encouraging, if only a slight increase in numbers. Kingfishers and Hummingbirds, on the other hand, were rare.

Perhaps the earliest sign of approaching autumn noticed by those who watch birds closely is the tendency of the Warblers to wander. In the early morning we hear little, fine chips which we have not heard until now in our gardens. The birds, when we look them up, prove to be Ovenbirds, Redstarts, or perhaps Black and White Warblers, species which have bred within a mile or so, and we wonder whether these individual birds have strayed from their near-by breeding-grounds or whether, thus early in the season, they have taken a night's flight toward their winter quarters. That a wide-spread migration is already under way is often proved by the presence in early August of a Warbler which must have flown from a distance—a Tennessee or a Parula. This year the wandering Warblers appeared as early as they usually do—during the last few days of July.—Winsor M. Tyler, M.D., *Lexington, Mass.*

New York Region.—The beginnings of the southward migration fall in this period. Tree Swallows are reported as gathering about the Hackensack marshes in early July. There was a further decided general increase in their numbers about August 12. Other Swallows which breed commonly in the region were also moving. C. H. Rogers estimated between 800 and 900 Barn Swallows at Long Beach on the morning of August 8. Before eight o'clock comparatively few birds were seen, and these feeding; a heavy flight took place between eight and ten, after which fewer were migrating.

July to August is the time of year when the majority of land-birds cease singing and are difficult to find; and the time when the majority of the northern breeding shore-birds are sweeping southward along the coast. This season the coastwise marshes have not dried out as they sometimes do, a condition doubtless correlated with an unusual abundance of such birds. Several species were very early in putting in an appearance. At Mastic, L. I., a Least Sandpiper and a Lesser Yellowleg, in company, were noted on June 27. A week later, July 4, there were more Lesser Yellowlegs, also Dowitchers; July 11, a Solitary Sandpiper; July 17, a Wilson's Snipe! A Solitary Sandpiper reported from Kingsland, N. J. (on the Hackensack) July 5 (C. H. Rogers), is exceptionally early. The Pectoral and Stilt Sandpipers at Mastic (both first noted July 24), and Jack Curlew on Long Island in general, are above their ordinary numbers. The Pectoral was decidedly more numerous in the past than it has been in recent years, but seems to be increasing again. The

Jack Curlew is one of the more regular migrants along the Sound side of the island, where shore-birds in general are poorly represented. It may be seen steering a steady course to the west along the Sound, passing close to the northern headlands.

The writer has long been aware that the Duck Hawk regularly persecutes coastwise shore-birds, and expects to meet with it whenever these become particularly abundant. Early in August he saw a Cooper's or Sharp-shinned Hawk attempt to pick up a Woodcock in the woods. Puddles of water in a wheel rut of a certain road frequently had borings beside them, and one afternoon a Woodcock was found sitting motionless, facing such a puddle, and the road beyond, its long bill slanting down across its breast. After about three minutes by the watch, a shadow dropped down, and a flutter resolved itself into,—first, the Hawk, which had missed, turning upward with dark-barred tail broadly spread to disappear in the arching branches and foliage above, second the Woodcock's wing-twitter slanting up and away through the trees in a direction opposite to that it had been facing. It must have been very quick.—J. T. Nichols, *New York City.*

Washington Region.—During the months of June and July, 1920, the city of Washington, so far as the weather was concerned, was an excellent summer resort, for birds as well as for people. Evidence of the cool, pleasant weather of this summer appears in the rather unusual abundance and activity of birds during July. Several species, such as the Indigo Bunting, Chewink, House Wren, and Wood Thrush, have continued regularly in song through July up to the last of the month, which seems to be not commonly the case.

Not very many unusual birds have so far been noted during the present season. The Blue Grosbeak, which is a more or less regular, though very rare, summer resident about Washington, was observed on June 21 by Miss M. T. Cooke at Belleview, D. C., along the Potomac River, a short distance south of Washington, and on June 25 by Mr. F. C. Lincoln at the same place. The Least Bittern was seen by Miss M. J. Pellew on July 21 and 23 near the southern end of the Highway Bridge to Virginia, and the American Bittern on July 23 near Alexander Island, D. C. The Sparrow Hawk, which has become accustomed to rearing its young in the city of Washington, ordinarily in nests placed in the cornices of buildings, is this year apparently breeding near the Library of Congress, as the birds were several times seen there during the latter part of June.

The Purple Martins have again returned to roost in the city, and much earlier than usual, though in apparently their former numbers. They seem, however, to be much more restless this year than previously, since they have several times changed their roosting-place already. Large numbers of Starlings, more than ever seen in Washington before, are assembling into roosts, sometimes with the Martins. A large roost of Swallows also, comprising Bank, Barn, and Rough-winged Swallows, was discovered by Miss Pellew in the marshes along the Potomac River just south of Washington.

Birds about the writer's home in the city near the Zoölogical Park were unusually numerous, apparently twice as much so as during the same period of last year. A pair of Robins reared a brood in the rose arbor at the back of our house, and a pair, supposedly the same, later brought up another brood on the branch of a tree in front of the next house but one, and only some eight or ten feet above and directly over the front walk. At the present time there is a third nest, recently built in front of the house on the other side of ours, and still occupied, notwithstanding damage done by workmen in the tree. What we assume to have been also the same pair of Robins had a nest in an adjoining yard last year; and these two birds seem to have become fully accustomed to the proximity of persons at all times of the day, although they never have entirely lost their fear of a very close approach.—Harry C. Oberholser, *Biological Survey, Washington, D.C.*

Kansas City Region.—But one note of unusual interest has come to hand during the current period. On June 19 two, presumably a pair, of Upland Plovers were noted in a meadow just inside the southwestern city limits. By their behavior they doubtless had young nearby, as they were particularly noisy and solicitous on being approached in one corner of the meadow. This prairie region is an old-time shooting ground where local sportsmen of earlier times were always assured of a full bag during the season. During the past fifteen or more years only migrants have been seen here in ever-decreasing numbers, and it is a most hopeful sign again to find these desirable birds remaining here to breed. However, this region is doomed as a breeding-stand for such wild birds, as home sites are rapidly replacing the open country.

A few Ducks and Coots have also remained to breed, as reports have come in from several near-by points, between June 1 and 17, of Wood Ducks, Blue-winged Teal and Coots being seen in small troops and family parties. At least one pair of Blue-winged Teal is known to have been unsuccessful in bringing off their brood.

A Marsh Hawk observed on June 27 was no doubt nesting in the neighborhood. There is but one authentic record of the local nesting of this Hawk, though it is common enough during migration and in winter.

The first returning Yellowlegs were reported as arriving on July 18, and on August 4 a belated Meadowlark's nest was found containing four eggs (Tindall). Baltimore Orioles were first heard singing on August 8 following their mysterious disappearance during the post-nuptial moult.

A large Robin's roost was recently discovered in a grove of pines in the Country Club district. The birds seemed to come in mainly from the southwest to this roost which evidently has been used for some time. Mourning Doves were also noted using one end of this grove for a roosting-place. The usual large Grackle roost in the Rockhill region is again causing annoyance, and, indeed, seems to be occupied by more birds this year than ever before.

The season here has been altogether favorable for bird-life, though there are nearly forty records of nests being broken up in a region where cats are not a menace and where the predatory small boy has been successfully appealed to. Numerous Blue Jays in the region may account for the destruction. Mourning Doves are noticeably more abundant than usual, and Yellow-billed Cuckoos are unaccountably scarce.

An interesting record received too late for inclusion in the last letter from this point was the finding on May 21 of a crippled Little Black Rail on the Missouri River by William Andrews.—Harry Harris, *Kansas City, Missouri.*

Itasca State Park (Minnesota) Region.—Shortly after rendering the report for the last period, the writer left Minneapolis to spend the summer in this northern locality in the evergreen region of the state, which was described in some detail in last year's summer record. The time since has been largely spent in securing moving-picture films of birds, small mammals, scenery, etc.

With the exception of two brief spells the summer has been much cooler than last year and up to the middle of July cloudy and rainy, so that the lakes, streams and lowlands have been over full of water.

The most notable feature of the bird-life here this summer has been the exceptional scarcity of characteristic Canadian species that are usually abundant and furnish the chief attraction to the bird-lover from the Transition Zone. Hermit Thrushes and Veeries, White-throated Sparrows and Juncos have been present in very limited numbers, whereas ordinarily they are seen and heard everywhere throughout the nesting season. Especially has the absence of the Warblers been a matter of surprise and a keen disappointment. Not a single Myrtle, Pine, Blackburnian, or Magnolia Warbler was seen during the breeding season. Last year

the Blackburnian in particular was encountered frequently on every trail. Single records only of the Parula, Black-throated Green, Canada, and Mourning Warblers have been made. A pair of Connecticut Warblers was found in the same bog as last year. Only a small proportion of the Ovenbirds that were so abundant here last year have been present this season. The Warbler migration at Minneapolis last spring was up to the average of recent years, but seemingly the usual allotment for this region did not come here to nest. Such abrupt and extreme irregularities in distribution are not easy to explain. Next year conditions may be normal again.

Last year there were many more forest-loving Ducks breeding here than there are this year. Only two broods of Golden-eyes and two or three adult Wood Ducks have been seen about the lake. A single brood of Mallards has been encountered several times in the same locality, feeding among the wild rice, a sparse growth of which fringes much of the lake shore. The wild rice never grows tall here, the blossoms and grain being usually only one to three feet above the surface of the water.

Black Terns, Kingfishers, Great Blue Herons and Loons have been present in about normal numbers, but no young of the last species have been seen. Perhaps the nests were flooded by the early high water.

Turkey Buzzards, formerly common, are evidently steadily decreasing in numbers. Fourteen is the maximum count this season. The usual Bald Eagles and Fish Hawks, a single pair of each, have nested near the main lake.

In contrast to the above described scarcity of desirable birds has been the overabundance of two undesirable birds—the Crow and the Grackle. These two species have been everywhere, constantly in sight and hearing, noisy and irritating. The Grackles gather and nest in the trees about the Forestry School and dominate the bird-life of the place during the breeding time. Just how great a part these two birds play in the great destruction of birds' nests that is constantly taking place is difficult to determine accurately, but they have been caught red-handed often enough to apparently justify the general opinion that they are the chief offenders. In their present overabundance it is almost certain that they play sad havoc with the nests of many of our birds when they are not well concealed or protected. In these forested regions they have an accomplice in this nefarious business, as bad if not worse than themselves—the Red Squirrel. Chipmunks of two species are much more abundant hereabouts than Red Squirrels, but so far as I can learn confine their attention to nuts, small fruits and seeds. But the Red Squirrel is common enough and is constantly hanging about birds' nests and has been seen to seize and make off with nestlings when opportunity offers. These three creatures, by reason of their fondness for eggs and callow young and their abundance, are seemingly the arch enemies of our birds in the nesting season. That there are other woodland depredators is probably true, but they are apparently of less importance.

When one is locating nests and watching them through until the young leave, it becomes a matter of great astonishment to find how few broods are successfully launched. This, I think, is more true here in the comparative wilderness than in the vicinity of cities and towns. Of a considerable number of nests found this year a very small percentage were successes. One pair of Song Sparrows at the Forestry School built at least three nests—twice in identically the same spot, two and a half feet from the ground in a little spruce by the water's edge—only to have them dismantled as soon as eggs were deposited. Crows were seen rifling a Robin's nest in the same locality. A pair of Black-billed Cuckoos made three attempts to raise a family but met with diaster each time, the last time when the young were one-third grown. Even the nest of a little Nashville Warbler, tucked away in a cozy retreat in the side of a mossy hummock in a spruce swamp, was the scene of some sort of catastrophe when the young were two or three days old, that left it hopelessly

ruined. A Red Squirrel prowling close by was considered the evil spirit in this instance.

With the coming of August the usual mixed troops of Warblers, Sparrows, Flycatchers, Vireos, Kinglets, etc., began to assemble in preparation for the leisurely journey southward. And by the middle of that month the trees and bushes were ever and anon filled with these twittering, restless aggregations. One day scores of Pine Warblers, old and young, with a few Myrtles mingled among them, appeared from somewhere, probably farther north. Mid-August found these northern lakes deserted by the Great Blue Herons and the Black Terns greatly reduced in numbers. The woods were silent except for the song of an occasional Red-eye and the 'chucking' of the red squirrel. A profusion of composites, the blazing stars and beautiful clusters of fringed gentians on the open hillsides and beside the watercourses marked the passing of the truly summer flowers. All this with a faint golden tinge creeping into the foliage of the aspens and birches gave plain warning that the first subtle influences of fall were already at work.—THOS. S. ROBERTS, *Zoological Museum, University of Minnesota, Minneapolis.*

DENVER REGION.—A year ago the writer wrote that during the hot spell of June–August the number of birds seen seemed small, suggesting that such extreme heat lessened the number of birds present in the region. That fewer birds were then *noticeable* is unquestionable; during the corresponding season of this year far more birds were seen, and the weather conditions have been ideal. The writer does not presume to maintain that it is established as a fact that during a hot season fewer birds are present in a given region than in a cooler season; that these conditions seem to obtain is merely alluded to and attention thereto invited.

During the season just passed, a few facts of more than passing interest have been noted: the lone Pied-billed Grebe which stayed in one of our park lakes (a fact mentioned in the last report) lingered there until driven out (seemingly) by bathing and boating parties. It is rather mystifying how this bird could have found enough food in this small lake on which to keep alive, not to say strong and alert. It was last seen in this lake on June 28.

Some of the usual late spring migrating arrivals in this region were held back in their journey; the Broad-tail Hummingbird commonly reaches Denver during the first week of June, while this year the first one was not seen until June 20. The cold spell of the late spring very happily had no ill effects on our breeding House Wrens, which were more numerous this year in the Denver Region than in any previous year covered by the writer's records, and these records also show, to one's great pleasure, that the Catbird remained in our parks all summer, the first breeding of this species in the city coming under the writer's observation. Many species seemed to have been unusually successful in their housekeeping this season; Yellow Warblers had their young out of the nest by June 27, while full-fledged young Mourning Doves were noticed in our parks by the first week in July, this last date being, however, late for the same species nesting in the foothills, and on the prairies. Young Warbling Vireos, Brewer's Blackbirds, and White-rumped Shrikes were unusually common in and about the region, all three species of these young birds having been observed during the second week of July. All these young birds were attended and fed by the old birds. This date for them is late, since the writer has often seen young Brewer's Blackbirds out of the nests a week and even ten days earlier.

Nesting Pale Goldfinches were more numerous in Denver during this past season of eight weeks than ever before in the experience of the writer, and he never before saw so many young Bullock's Orioles and young Wood Pewees congregated together as he did during the second week of August. The writer has no explanation for this gratifying increase except that these species are, year by year, becoming

more familiar with nesting possibilities in the region, and also that these possibilities are bettering as time goes on. At the present writing (August 15), there are still a good many young Wood Pewees hereabouts, but most of the Orioles have left.

The last spring - migrating Virginia Warbler was seen in this neighborhood on May 15; this species nests in the foothills only fifteen miles west of Denver. The first returning (?) Virginia Warbler was seen in one of our parks on July 27, after which date some were noticed every day until July 30, none being seen thereafter. These dates give one some idea of the speed of the 'housekeeping' of this particular species; from May 15 to July 27, to travel to the foothills or farther, select mates, find a nesting-place, build a nest, lay and hatch a set of eggs, and bring a brood to maturity! A rather large contract for such a mite; what it lacks in size, it makes up, however, in energy and efficiency! The presence of a young Sage Thrasher in Denver on July 24 raises the question if this individual could have been reared within this region; it is possible, though the writer is not acquainted with any Denver breeding records of the species.

He suspects that some Plumbeous Vireos bred in Denver this summer because many have been seen here all this time, though no nests have been discovered. The scarcity of Nighthawks noted this spring has persisted during this season just passed.—W. H. Bergtold, *Denver, Colo.*

San Francisco Region.—Some changes in the population of breeding birds in the Bay Region have taken place during recent years and have been further confirmed by records made during the present season. These changes may be due to the increase in forestation in the immediate locality, to the greater expanse of lawns under cultivation, or to overpopulation in contiguous regions. The species noticeably affected are the Coast Jay, Junco, Creeper and Western Robin.

From being a very rare bird in the cañons of the Berkeley Hills in 1910, the Coast Jay has become a localized species in areas providing an environment similar to that of its typical home in the humid coast belt. More numerous in winter than in summer, it is, nevertheless, an increasingly common summer resident in the East Bay region.

Juncos are present in large flocks in the entire section during the winter season, and for several years there have been straggling reports of breeding birds and nests in various localities. This season they were quite noticeable as summer residents, particularly in localities where the Monterey pines and cypresses are numerous. Creepers, though less conspicuous than the Juncos and probably less numerous, except in the redwood region, are almost certainly nesting in the East Bay region in localities similar to those chosen by the Juncos. The species of both Creepers and Juncos in the territories recently adopted by them have not yet been determined.

The Western Robin was first reported as nesting in Golden Gate Park in 1916, and each year since that date occasional nests have been found on the San Francisco Peninsula. The next year (1917) a nest was found at the Claremont Country Club on the east side of the bay. This year a number of interested observers in Berkeley have reported Robins in song, and one nest has been located near the Greek Theatre on the University Campus.

These four species have moved into the Bay region and henceforth must be reckoned among the breeding birds. Whether the Crossbills, reported from Redwood Peak, will win the same recognition will depend on the records of future years.

The 'old-time' summer residents have been present in ordinary abundance. Two nests of the Olive-sided Flycatcher have been found this summer—tangible proof that it is rightfully included among the breeding birds of the region.

At present (August 10) many of the land-birds are moulting and no reports of migration have been received. But among the water-birds the advance wave of

migrants has already reached the Alameda mud flats, Dowitchers and Curlews being present in flocks, while Knots, Semi-palmated and Black-bellied Plovers, Willets and Godwits have appeared singly or in small bands. Many of these wanderers are still in summer plumage and are doubtless the unsuccessful breeders that have been free to begin their journeys because they have no family cares.—AMELIA S. ALLEN, *Berkeley, California.*

SAN DIEGO REGION.—The nesting season, always full of interest to the bird-lover, has not been abnormal in this region. A walk in May along streets bordered with the fan-palm usually discloses the pendent nests of the Hooded Oriole, and this year they seemed more than ever in evidence. A pair has built for many years in a tall old palm at the entrance to a ranch on a suburban street, in company with numerous linnets. This year a colony of English Sparrows was established in it, feeding their young, before the Orioles arrived; but this addition to the already large population of the tree in no wise disturbed the latter, and their neatly woven nest of palm fiber soon swung in the breeze under its protecting leaf, the young Orioles appearing in due time in the yard of an Audubon member a block away, where the father had come for food during the early summer. Early in June a party of Audubon members watched with glasses an interesting scene at the nest of a Black-headed Grosbeak, as the male came to relieve his mate. He interrupted his song only to examine the eggs, apparently, turn them over and take his place on the nest.

A rare find was the nest of the Lutescent Warbler, with four eggs. Both birds were seen close by, fidgeting anxiously as the party approached. The nest, a dainty cup of moss, dry grass and stems of the maiden-hair fern, was set deeply in the bank just above the trail, and concealed by dead twigs and herbage. A later visit to the spot showed the nest destroyed and scattered about, with no trace of eggs. A still later visit found the birds in the same locality, and the singing of the male indicated they had again nested.

Five Road-runners, catching grasshoppers in a stubble field, enlivened a morning walk. Western Blue Grosbeaks were found nesting in Laguna Cañon on June 5, where a group of sycamore trees that heretofore have harbored many Black-chinned Hummers' nests, this year were occupied by Western Kingbirds, along with the Bullock Orioles, of which eight nests, built of horse-hair, were seen. In another cañon a group of large sycamores held twenty-two nests of the Great Blue Heron, some of them containing half-grown young. First definite record for the southward migration of the Allen Hummingbird was made on July 16, at the mouth of Fish Cañon, when a male youngster was taken by a collector.

In the mountains, the Olive-sided Flycatcher seemed more than usually conspicuous. A nest of the Ousel was located under a bridge over the Santa Ana River, in the San Bernardino Mountains; when examined, by lifting a plank, a full-grown youngster jumped into the brawling stream as though he had never known a different element, coming ashore fifty yards down stream. A flower-covered, boggy hillside nearby was the feeding-place of the Calliope Hummer, the tiniest bird of North America. Here, in their courting antics, they buzzed almost into the face of the observer. Nesting operations were just beginning on June 22, when the females were seen gathering spider-webs.

The Blue-fronted Jay, one of the host of mountain birds that invaded the valley last winter, evidently found a satisfactory home in Griffith Park, the largest of our city parks, where natural conditions largely prevail, for he has been seen feeding young there and is apparently established.

A beach visit on the last day of July showed the fall migration of shore-birds under way, with Hudsonian Curlew in the van and scattered along the twenty miles of beach traversed, while Heermann Gulls also had reached this region, having bred 1,000 miles to the southward.—L. E. WYMAN, *Los Angeles, Calif.*

Book News and Reviews

WHAT BIRD IS THAT? A Pocket Museum of the Land-Birds of the Eastern United States Arranged According to Season. By FRANK M. CHAPMAN. With illustrations of 301 birds in color, by Edmund J. Sawyer. D. Appleton & Co. 12mo, 144 pages, 8 color plates.

Bird-lovers who visit the American Museum of Natural History should make a point of seeing the Collection of Birds found within 50 miles of New York City. In it they will find specimens of each of the 350 odd species of birds which have been found within this area arranged according to the classification of the American Ornithologist's Union and also a smaller 'Seasonal Collection' composed of only the permanent resident species and the migrants which are then present. As the latter come or go they are added to or taken from the collection, which consequently is restricted to the birds of the season. This scheme not only makes it a comparatively easy matter to identify some bird one has seen in the vicinity, but it gives the student, and especially teachers with their classes, a comprehensive view of the birds of the day, as it were.

It is this method of exhibition which Dr. Chapman has attempted to embody in this little volume and his efforts have been most effectively supported by Mr. Sawyer's admirable illustrations. These represent museum cases in which the birds are placed on shelves in orderly array. The first two 'Cases' contain the Permanent Resident and Winter Visitant Land-Birds of the northern states, while Cases 3 and 4 depict the same groups in the southern states. The remaining four cases figure the migrants of March, April, and May arranged according to the times of their arrival. The birds in each case are drawn to the same scale and the important field character of comparative size is thereby clearly brought out, while the grouping of many birds together permits of quick reference and direct comparison. For each 'specimen' Dr. Chapman has added what he calls a 'label' in which the bird's range, distinctive characteristics, and habits are briefly stated. The entering wedge of bird-lore is assuredly here whittled to a fine point and the little volume may be commended as an introduction to the study of ornithology.—E. C. B.

The Ornithological Magazines

THE AUK.—The first article of the July number is 'Notes on some American Ducks,' by Allan Brooks, written from a very intimate knowledge of this group of birds and illustrated with pleasing halftones of Barrow's Golden-eye in life. The differences between the females of the two Golden-eyes, which are very much alike and easily confused, are gone into with great detail and there are figures of bills, skulls and trachea of the two species. 'Courtship in Birds,' by C. W. Townsend, is a charmingly written presentation of common-sense views on this much-discussed subject. As the paper is likely to be quoted, attention should be called to an apparent slip in speaking of the flight-sound of Wilson's Snipe. Unlike the Woodcock, it is tail not wing-feathers which are modified in the Snipe, and which experiment has indicated to be their musical instrument. Kennard narrates an investigation of the breeding habits of the Rusty Blackbird in northern New England, with photographs of nesting-sites and a full-page illustration of a nest and complement of eggs. G. B. Grinnell in 'Recollections of Audubon Park' gives interesting side-lights on the family life of Audubon from personal boyhood experiences, which emphasize Madam Audubon's great personality. Full-page portraits of Mrs. Lucy Bakewell Audubon and John Woodhouse Audubon accompany this article. Hollister presents some statistical matter on the relative abundance of wild Ducks at a Wisconsin locality during the nineties.

The Black Duck in that region is

now increasing in numbers year by year, a fact seemingly to be explained only by a westward extension in its general distribution. There is the concluding part of Wetmore's observation on the habits of birds at Lake Burford, New Mexico; 'Ontario Bird Notes,' byFleming and Lloyd, a faunal paper; a technical discussion of the structure, relationships, and nomenclature of the group of Kingfishers to which our Belted Kingfisher belongs, by W. DeW. Miller, and a seventh supplement to the A. O. U. Check-List.

Among 'General Notes' we find mention of the Evening Grosbeak having extended its flight into New Jersey the past winter and the Bohemian Waxwing at Rochester, N. Y. S. F. Rathbun gives interesting sketches of the habits of the Waxwing during a winter visitation at Seattle. An unusually extensive northward spring movement of the Blue-gray Gnatcatcher is evidenced in the record of individuals from Boston and from Quebec.—J. T. N.

The Condor.—The March and May numbers of *The Condor* contain, in addition to two continued articles, interesting accounts of the nesting habits of several western birds. The opening article in the March number on 'The Nesting Habits of the Alaskan Wren,' by Prof. Harold Heath is based mainly on his observations on St. George Island in Bering Sea in the summer of 1918, when the birds were unusually numerous. This diminutive Wren has one of its principal breeding-grounds on St. George Island and is subject to considerable fluctuations in its numbers. As many as forty pairs have been noted in some years, while in the severe winter of 1919 only a single pair was observed. How the bird maintains its precarious existence under such conditions on a three by eight-mile rock in Bering Sea is not less interesting than the manner in which it keeps its nest dry in damp or dripping crevices of rocks. Almost the opposite conditions are described by Van Rossem and Bowles in the 'Nesting of the Dusky Poor-Will near Saugus, Los Angeles Co., Calif.' on the bare ground on the side of a cañon under the shade of wild lilac and white sage bushes. Bryant's Marsh Sparrow, which has been supposed to be confined to the salt marshes along the coast of California, has been found by the Mailliards on hills 400 feet high and on Black's Mountain 1,140 feet in elevation and four miles from the salt marshes of Tomales Bay.

Henshaw's 'Autobiography' refers to the early days of the American Ornithologists' Union and his meeting with several California ornithologists. Among the brief notes M. P. Skinner records the nesting of the almost extinct Trumpeter Swan in the Yellowstone National Park in 1919.

The May number opens with an interesting account of 'The Home Life of the Western Warbling Vireo' in Idaho, by H. J. Rust, illustrated with eleven photographs. The male bird not only takes part in incubation but sings while actually sitting on the eggs. Under the title 'The Existence of Sea-Birds a Relatively Safe One,' Grinnell shows that sea-birds are exposed to few dangers in comparison with land-birds and registers a protest against the practice of basing local records of rare birds on specimens found on the beach, as such specimens may have been carried by winds or waves hundreds of miles from where the bird actually died.

Mrs. Bailey's 'Return to the Dakota Lake Region' is concluded with notes made in August and September just prior to the autumn migration of the waterfowl and Henshaw's 'Autobiographical Notes' are concluded with his visit to the Hawaiian Islands and his connection with the Biological Survey, thus bringing the record down to December 1, 1916. In the Editorial Notes is an announcement of the acquisition of the Grinnell collection of birds by the Museum of Vertebrate Zoölogy which now has a total of 40,438 specimens in its ornithological collection. The 'Annual Directory,' with which the number concludes, shows that the Cooper Ornithological Club now has a membership of 655, a gain of 55 over the number in any previous year.—T. S. P.

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Bird-Lore's Motto:
A Bird in the Bush Is Worth Two in the Hand

THE ANNUAL CONGRESS of the American Ornithologists' Union will be held this year in Washington, November 8 to 11. If one cannot attend these important and stimulating meetings of bird-students regularly, he cannot do better than to select the one which is held in Washington. Aside from the attractions which the Nation's Capital possesses and the seasonal advantages it offers over more northern cities in November, there are traditions which hang about the 'Smithsonian Institution,' under whatever name it may function, with which none of the other meeting-places of the Union can compete.

In addition to the usual three-day session for the presentation and discussion of papers on birds, many of which will be illustrated by specimens, lantern slides or motion pictures, the local committee of arrangements for the present Congress is arranging a special exhibit of ornithological art, notice of which appears on page 282.

Membership in the A. O. U. is a privilege which no bird-lover should deny himself. If he is unable to attend these annual reunions, he will at least receive, in return for his yearly membership fee of three dollars, a copy of the Union's official organ, *The Auk*, a magazine which easily takes first place among the ornithological serials of the world. All details in regard to membership in the A. O. U. may be obtained from its Secretary, Dr. T. S. Palmer, 1939 Biltmore Street, Washington, D. C.

THE LEAGUE OF WILD-LIFE PHOTOGRAPHERS which was formed earlier in the year, largely with the purpose of exposing the makers of fraudulent 'nature' photographs, offers its services to the editors of magazines who, lacking experience in the field of nature photography, are often unable to detect faked from genuine wild-life photographs.

Recent glaring ornithological errors in certain magazines suggest the desirability of an A. O. U. Committee on popular ornithology which would also offer its services to the editors who wished to avoid at least unpardonable blunders of identification. We have recently seen, for example, an excellent photograph of an adult Sparrow Hawk published above the caption, 'Chicken-Hawk,' while a row of fledgelings of this species were called 'Young Screech Owls' which, it was explained, had been blown from their nest by a storm!

An author, who writes on 'How to Know Birds,' illustrates his article with a Young Red-headed Woodpecker which he labels 'A Young Flicker', a proceeding which suggests that the method he recommends is not infallible.

How technical editing may prevent a magazine from committing humiliating errors of this kind was well illustrated by an incident which occurred within the week. An editor of a standard sportsman's journal received from one of his correspondents a detailed account of the breeding of the 'Wild Pigeon,' accompanied by photographs of Pigeons which had been taken from the nest and reared in captivity. The photograph was an excellent one and showed beyond question that the birds were White-crowned Pigeons, a common West Indian species which reaches the Florida Keys and, in this instance, had been found nesting on Bemini Island in the western Bahamas. Here the editor, more cautious than many of his colleagues, saved himself the necessity of an apology to his readers by the exercise of a bit of good judgment and the expenditure of a two cent stamp.

The Audubon Societies

SCHOOL DEPARTMENT

Edited by A. A. ALLEN, Ph.D.
Address all communications relative to the work of this department to the Editor, Cornell University, Ithaca, N. Y.

STUDYING THE FALL BIRDS

No phenomenon of nature is more striking to the observant watcher as he enters the September woods than the change that has been wrought in the realm of birds. The hundreds of voices that claimed his attention during the spring and summer are now hushed and he hears only the occasional notes of a Red-eyed Vireo or a Wood Pewee. So quiet are the tree-tops and so silent the forest floor that he is almost ready to believe that the birds are gone, but, as he follows the border of the woods further, he suddenly finds himself in the midst of a flock of birds even more numerous than the hosts of spring. They are scratching in the leaves, shaking the bushes and weeds, and chippering in the tree-tops in such manner as to announce their presence beyond any doubt, although they are difficult or even impossible to see.

In the fall the birds are no longer scattered evenly through the woods and fields but have gathered in flocks, sometimes many species together, and are moving slowly southward. Where food is abundant they stop for some time, but they shun all places where food and water are scarce. In spite of their numbers, however, they are difficult to see among the autumn greens and browns, for the familiar liveries of spring have been discarded for suitable travelling attire. Little change has come over the Sparrows and Vireos, whose dull plumages serve for both summer and winter, but the bright Tanagers, Buntings and Warblers have now assumed the modest dress of the females and even the Robin has his red breast tinged with gray.

Fall is a time when careless observers become hopelessly confused and lose interest in bird-study, but it is the time of all times when the keen observer revels in a wealth of unusual plumages and rare records. Those of us whose opportunity it is to teach others and to lead children or beginners through the woods and fields in search of birds find ourselves confronted with innumerable difficulties. The lack of song, the dull colors, the secretive ways of the birds, the luxuriance of the weeds and the denseness of the foliage of the trees that discourage the single observer, are almost unsurmountable barriers to a class or group. We are led to rejoice when the frosts and winds make the woods more penetrable, though they likewise thin out the ranks of the birds. Lucky are the ones who live near ponds or bodies of water that attract the shore and wading birds for they alone present the unobstructed vision that one is accustomed to in the early spring and longs for all fall. The Sandpipers and

Plover, the Herons and Bitterns, and sometimes the Rails and even the Ducks present opportunities for class study such as one enjoys with most birds in the spring. Those who have no shores to visit, however, must content themselves with isolated observations and make intensive studies of such birds as can be found. Perhaps it is just as well for us that nature takes this way of directing our attention to some of her less striking phenomena, for were we forever surrounded by pleasing songs and brilliant plumages, we might overlook entirely the changes that are so imperative in renewing the worn, frayed plumage. But when our attention is called to it, we find in the molting of birds a lesson that is as interesting as it is vital. It is a lesson well suited to this period during the fall, for it can be demonstrated as beautifully with the Sparrow in the street as it can be by the rarest and most secretive Warbler.—A. A. A.

SPARROW'S WINGS IN MOLT TO SHOW THE WAY IN WHICH THE FEATHERS ARE SHED AND REPLACED

The molt begins with the innermost primary (IX) and progresses gradually inwardly and outwardly. Roman numerals indicate primaries; Arabic, secondaries. Arrows show the advance of the molt. In the uppermost wing the molt has not begun, in the lowest it is almost complete

HOW BIRDS CHANGE THEIR PLUMAGE

August is the month of molting, the season when birds change their faded worn plumage for fresh feathers often of a different color. Some birds do not complete molting until September is far advanced while others, particularly among the Waterfowl, begin molting in June and by September have passed through two molts, having taken on a dull plumage and discarded it again. With most birds, however, September finds them in their full winter plumage. The change has been such a gradual one that, although every feather has been shed and replaced, it has scarcely been noticed unless there has been a change of color as well. Beginning always at a definite feather,

usually the innermost primary wing-feather, the molt proceeds with regular sequence until all the feathers are replaced. The second feather is not lost until the first is partially grown, and, before the third and fourth are lost, the first is practically matured. The same is true of the tail feathers, so that a bird is never normally without its locomotor organs and steering gear. An exception

A YOUNG CROW
Showing how feathers grow in narrow areas or 'feather tracts,' with large bare spaces between

to this is found in the Ducks, Rails, and Diving Birds which are not dependent upon their wings to escape their enemies and which, therefore, can safely molt all of their primaries at the same time and be temporarily deprived of the power of flight. On the bird's body, likewise, the molt proceeds gradually from a certain point, only a few feathers being lost at a time. The half-naked Chickens seen in many farmyards are cases of arrested feather development which does not occur in nature except in cases of disease.

As almost everyone knows, feathers are not worn indiscriminately over a bird's body but along definite lines called feather tracts. Between the feather tracts, which are apparently regular in every species of bird, there are extensive bare areas which are dependent upon the overlapping of the feathers of adjacent tracts for protection. In the young of most birds, until the feathers are matured, the feather tracts (pterylæ) and the naked spaces (apteria) are very conspicuous as in the accompanying photograph of a young Crow. The sickly Chickens appear naked not because the bare spaces are any larger, but because they are entirely exposed by the scarcity of feathers in each tract.

Most birds molt only once a year, but it would obviously be impossible for a bird that changes to a dull coat after the nesting season to assume its brilliant breeding plumage without another molt in the spring. Thus we find, in the case of such brilliantly colored birds as the Scarlet Tanager, Goldfinch and Indigo Bunting, that the males undergo a spring or 'pre-nuptial' molt as

well as a fall or 'post-nuptial' change of plumage. The pre-nuptial molt, however, is usually incomplete, for the wings and tail feathers, which are dull even in brightly colored birds, are usually made to serve both plumages.

In some birds where there is a conspicuous change in color from the winter to the breeding plumage, it is accomplished in another way known as 'feather wear.' This is possible because each feather is tipped with a color different from the main portion of the plume. The feather tips give the general color to the winter plumage, but as they wear off, the color of the breeding plumage is exposed. Browns, yellows, and grays occur most frequently as color-tips, with blacks, browns, or reds beneath. The Robin's breast becomes redder with the advance of spring because the gray tips of the feathers wear off. The black spot on the throat of the male House Sparrow and that on the breast of

A MOLTING SPARROW
The new feathers appear darker than the old ones and can be seen in the wings, scapulars, back and rump. Try to determine how far the molt has proceeded in the wings

the Meadowlark treble in size for the same reason. The Red-winged Blackbird loses his reddish-brown cast and becomes intensely black, while the Snow Bunting wears away the rusty color from its head and breast and shows snowy white for the summer.

In birds like the Purple Finch and Indigo Bunting, where there are no apparent gray tips to the feathers and which still seem to become more intensely colored as the season advances, the feather wear is of a different sort. It was formerly believed that the feathers became repigmented from the blood of the bird but today that is considered impossible, because once the feather is mature, it is a dead structure, physiologically disconnected from the body and serving only in a mechanical way for flight and protection. To under-

stand what actually happens in the case of these birds, it is necessary to know something of the structure of the feather as shown under the lens.

All feathers are composed of a mid-vein or shaft and the web. If the web is examined carefully it will be seen to be composed of a series of fibers called 'barbs' attached on each side of the shaft. Each barb, similarly, bears two rows of barbules. When the barbules are examined under the microscope, they are found to bear a number of minute recurved hooklets which fasten into the hooklets of adjacent barbules and give to the feather its firmness, being best developed in the flight feathers, which require the greatest strength. Some feathers, and the innermost parts of most feathers, lack this device and are, therefore, always soft and fluffy, giving little resistance to the passage of

MALE HOUSE SPARROWS IN SUMMER AND IN WINTER PLUMAGE
Note that in winter the black throat and breast is nearly concealed by the gray tips of the feathers. In the spring they wear off, revealing the black beneath

air through them. Now in the case of the Purple Finch and Indigo Bunting, the red and blue colors are located mostly in the barbs, while the barbules and hooklets are dusky. With the wearing away of the barbules and hooks on the body feathers, the barbs become more conspicuous and the color of the bird becomes apparently more intense.

That molting is not confined to birds is well recognized and its homology to the 'shedding of the skin' in reptiles and amphibians is conceded. Of course, the snake or amphibian does not actually shed its skin but merely the hard outer cuticle. This cuticle, as in the case of the birds' feathers when fully formed, is a dead structure and it is inelastic. Consequently, as the snake or frog or salamander grows, this 'shell' becomes too small for it and must be

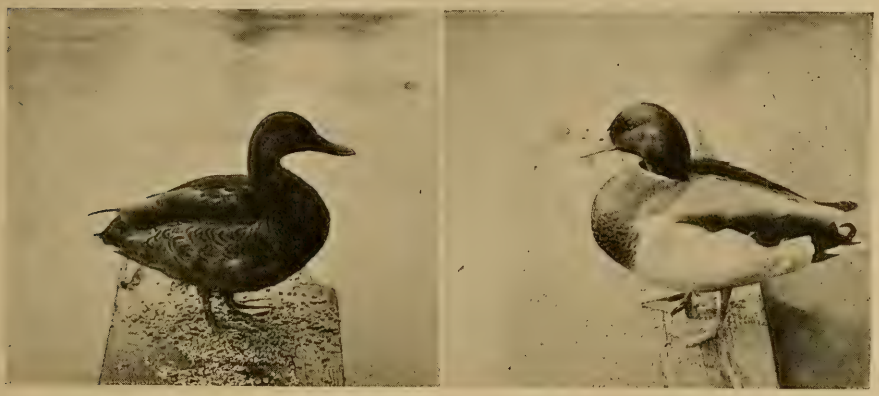
replaced by a larger one. The more food one of these cold-blooded animals consumes, the more rapidly it grows and the more often it has to molt. It is not seriously discommoded by the process, however, except for a short time when the loosened cuticle over the eye becomes opaque and renders it nearly blind. When this occurs the animal rubs its nose against a stone, splitting the hard cuticle and then gradually wiggles itself free, leaving the skin entire, a sort of a ghost of its former self.

With birds the molting is a more serious matter. It requires far more energy to grow a new set of feathers than merely to form a new cuticle, in fact, so much so that most of the other activities must stop and the bird's entire strength be given to molting. As a result, song ceases, fighting and display are never indulged in, and nesting responsibilities are completed and out of the way. The birds retire to the thickets and move about only in search of food. It is a period of sickness or indisposition and the birds largely shun each other's company. During the molting time many birds practically disappear and are nowhere to be seen for several weeks. The Red-winged Blackbirds, for example, are very abundant in every little marsh until the last of August. Each evening they can be seen flying in large flocks to roost in the marshes and each morning leaving again to feed on the upland fields. The sexes separate in flocks by themselves and show little interest in each other. Suddenly the male birds disappear, shortly the females and immatures follow, and there ensues a period of several weeks when no Blackbirds are seen either morning or evening, nor are they to be seen during the day about the marshes.

A SPOTTED SALAMANDER AND ITS CAST SKIN
Showing how cold-blooded animals renew their outer covering

In a few weeks they appear again and this time in even larger numbers than before for they have been joined by migrating birds from the North. In former years it was supposed that the early disappearance was caused by the resident birds leaving for the South and that the reappearance of blackbirds announced the arrival of birds from the North, but the unaccountable part of the story was that although the August birds were supposed to be leaving for the South,

they never arrived. Instead the Blackbirds in the South likewise disappeared. The mystery of their disappearance, however, can easily be explained by anyone who will venture out into the heart of the larger marshes during the first of September, for there he will find, after sufficient search, large flocks of short-winged, short-tailed Blackbirds skulking about the more open areas and hesitating to fly far. For it is at this period that they are just completing their



CAPTIVE MALLARD DRAKES

The bird at the right is in full plumage which it wears from September to June. The bird at the left is in 'Eclipse' plumage. This corresponds to the winter plumage of other birds, but it is worn only from July to September, during which time the flight feathers are lost and regained.

molts by the replacement of the outer primaries, the loss of which in shortening the wing, makes flight difficult and the long flights to the uplands practically impossible. Hence they are seldom seen and it might easily be concluded that they had left for other parts.

Thus it is with other birds also. They cease singing and go into hiding until the molting is practically completed, but it is not long before they regain their former vitality and some even revive their full springtime songs. The majority, however, prefer to rest after their strenuous labors, filling their crops with fruits and seeds and laying up a store of fat that will serve them in the long journeys that they are about to undertake.

In studying the fall plumage of birds it is always interesting to compare them with their spring plumages and try to determine what changes have taken place through the molt and what further changes will be necessary to bring the birds once more into their breeding plumage. Just as the streaked breasts of young Chipping Sparrows and the spotted breasts of young Robins show their family relationships, so the fall plumages of many birds are indicative of their relationships. Bay-breasted and Blackpoll Warblers, for instance, that are so different in the spring are almost indistinguishable in the fall. Every bird has some interesting phase to its plumage-change and so, no matter how scarce birds may seem, one can always find something interesting to watch or toward which to direct the observations of his students.—A. A. A.

QUESTIONS

1. Why are birds difficult to study in the fall?
2. When do birds stop singing and why?
3. How are the feathers arranged on a bird's body?
4. What is the process of changing the feathers called and how long does it take?
5. How does nature provide against the loss of flight of most birds during the period of feather-change?
6. What birds molt all of their flight-feathers at the same time and what method of escape from enemies do they have during this time?
7. How long is the winter plumage worn by water-fowl and what is it called?
8. What is the effect of molting upon a bird's activity?
9. How often do birds molt and what are the different molts called?
10. How do some birds change their appearance without molting?
11. Describe two types of feather wear.
12. Compare a bird's molting with that of a cold-blooded animal such as a salamander.
13. Name five birds whose winter plumage is strikingly different from their summer plumage.
14. Name five birds which secure their breeding plumage through feather-wear.
15. Mention five facts of interest in connection with the plumage changes of the House Sparrow.

FOR AND FROM YOUNG OBSERVERS

BOBBY

I want to tell our young readers of Bird-Lore about Bobby, our pet Robin and some other little birds. When I say 'our' I shall have to tell you that I am a school teacher and 'our' includes my school and myself.

Perhaps you would like to know that our school is in Lynn, Mass.; and our room is on the third floor of a twenty-room brick building.

One day last June, when the children were dismissed for the noon intermission, it was raining hard and the wind was blowing quite severely. A little boy of twelve years came running back with a little Sparrow in his hand. The tiny bird was drenched with rain. I suppose the storm had beaten him out of his nest from behind some blind, and he had fallen to the ground. We put him in a box, leaving the cover off and placing some warm cotton batting in the bottom. One of the boys ran out to a store and got a package of graham crackers. I soaked one in water, and our Sparrow opened his bill and ate it, small bits at a time, of course. When we returned for the afternoon session, one of the little seven-year-olds from the lower floor came running up with a bird in his hand which he had picked up under a tree. The strong wind had probably rocked the nest in the tree too hard, and this little bird had tumbled out. It was a baby Robin with as yet very few feathers on him. We named him 'Bobby.'

We kept the birds in the box on the window. When they were hungry, they would cry and one of the children would feed them. The Sparrow ate only

crackers and bread crumbs; but the Robin we fed on cooked peas, cherries, muskmelon, and worms. When we could not get worms we gave him hamburger steak. At last the summer vacation came, and I took the birds home. I am sorry to say the little Sparrow died, but Bobby grew, and his feathers looked glossy, and his breast grew redder and redder. I taught summer school for six weeks, so I had to go off and leave Bobby in the house alone from eight to eleven o'clock, except that the little boy whom you see in the picture went to my house and fed him once between those hours. When I came home Bobby would speak to me through his little song of, *cheer up*, *cheer up*, before I could open the door. He seemed to know my step. I kept him in a large box on

CHUMS

the kitchen table, but I did not cover it; and when the sun shone, he would perch on the top and sing, making me think of that line of Lowell's, "The little bird sits at his door in the sun."

At last Bobby was able to feed himself from a little dish which I kept on the table. I also kept there a basin of water in which he often took a bath, and I sometimes put a dish of sand on the table from which he picked little pebbles. I suppose these helped to digest his food.

Morris, the little boy in the picture, and myself, often took him outdoors and each time he flew higher and higher after picking around in my flower garden for worms and ants. We knew the time was approaching when Bobby would probably fly away into his native place among the trees. I dreaded to think that he must leave us, for we had become very much attached to him.

Wherever in the house he heard my voice he would come hopping along the floor to find me, singing all the way. Sometimes he would fly to me, especially if he had been left alone, then he was so glad to see me he could not wait to hop. We were very sorry to part with Bobby.

One day during the summer school session, one of my boys brought in another little Sparrow. This was also on a very rainy day and the poor little bird was almost dead. We put him where he could get warmth, and when the sun came out we put him on the window. He seemed to be perfectly well when his feathers were completely dry, and opened his bill wide to be fed. We gave him a good dinner and then opened the window; and away he flew, off into the topmost branches of an elm tree.

Perhaps sometime, my boy or girl reader, you may find, especially after a storm, some little bird that has been tumbled out of its home by a storm. I know you would enjoy feeding and caring for it until it could fly. I would let it go when it was able, because I think those birds that live in the open are happier there and live longer. If your bird is real tiny, you may have to feed him at first by chewing some bread crumbs and letting him take them from the end of your tongue. Be careful not to overfeed your little one. Birds do not want much at a time, but a very little often. Bobby would sometimes take water from a spoon, and I have given him ice-cream for his dessert in the same way, and he seemed to appreciate it very much.

Perhaps some of my readers will sometime write to us about some little bird which they have befriended, We should be very glad to hear from you. Address, Room I, Shepard School, West Lynn, Mass.—ELIZABETH MAE CROSBY.

[One of the best ways to study birds is to study one bird thoroughly, learning every habit and every mood. Then one is better able to interpret what he sees all other birds doing. There is no better way of getting familiar with a bird than to raise it from babyhood to maturity but unless one wishes to meet discouragement, he should begin with a species that is easily raised like a Crow, a Starling, or a Robin.—A. A. A.]

MY BIRD GUESTS

Last winter we put suet on a tree near our house in Bronxville, N. Y., and had many bird visitors. A pair of Downy Woodpeckers, several Nuthatches, a Hairy Woodpecker, Brown Creeper, Chickadees, and Blue Jays came every day.

We also put out sand, crumbs, and seeds during the winter, and Juncos, Song Sparrows, Fox Sparrows, and Nuthatches came and ate by the window. The Nuthatches would scold if there were no sunflower seeds.

I had a little Bird Club with my friends; we learned to know by sight twenty-two birds. We hope more birds will come for food this winter.—ANNE E. MARVIN (age 9 years), *Bronxville, N. Y.*

[Anne has the right idea, and should have many followers. The earlier one begins to put out food for the winter birds, the more are likely to stay through the winter.—A. A. A.]

THE BABY BARRED OWLS

When I was walking along Rock Creek, April 16, I was surprised to see a big Owl fly from a hole in a large cottonwood. I climbed up a pole that was leaning against the tree and looked into the hole that was about a foot deep. There were two white eggs nearly as big as hens' eggs.

On April 23 I came again and there were still eggs. On May 8 there were two funny, downy, fuzzy, white babies. The biggest had her eyes open but the other one had his shut. The mother Owl flew out of the hole this time, but we did not see her later.

TWO BABY BARRED OWLS, ONE SOLEMN, THE OTHER SNAPPING ITS BILL
Photographed by Margaret M. Nice

On May 21 the biggest snapped her bill and acted as if she were trying to protect her little brother, who only squeaked.

On June 6, when I got up to the hole, the biggest one started to climb up to me, snapping her bill. I had one hand in and one holding to the bark and I didn't like to turn toward the Owl. I could not fight, so had to shake. She came out and flew to the ground. I let the other one down with a rope. My mother took their pictures. They were barred now instead of white and their eyes were blue. When I drew them up again the little one caught but I pushed him loose. I never will take them again.—CONSTANCE ELY NICE (age 9 years, fifth grade), *Norman, Okla.*

[It is commonly believed that all Owls have yellow eyes, but here is a case where the young Owls had blue eyes. Who knows the color of the adult Barred Owl's eyes?—A. A. A.]

BRONZED AND PURPLE GRACKLES

By T. GILBERT PEARSON

The National Association of Audubon Societies
EDUCATIONAL LEAFLET NO. 103

Over large portions of the United States the 'Crow Blackbird' is well known to all observers of nature. Throughout its range, with the exception of small sections in the South, it is the largest of the Blackbirds, attaining a length in some cases of 13½ inches.

Grackles are usually found in companies, even in the breeding season. Through the northern states they are among the earliest migrants to arrive in spring, soon taking up residence in the vicinity where they expect to remain until the young have been raised. They are equally at home in the rural

BRONZED GRACKLE

districts, in small towns, or in cities. Their nests are generally placed in coniferous trees, and the groves selected may be in such situations as by a pond on the back of some farm, on a college campus, or in a city park. With equal readiness they frequent the open fields or come to well-trimmed lawns. They are common in Boston Common and on the open places of Central Park, New York City.

The nest is a bulky structure made of twigs, feathers, grass, and weeds, or other material easily obtainable. It is daubed with mud and lined with fine grasses. In common with most of the family to which the Grackle belongs,

the eggs are white or nearly so and decorated in a haphazard way with irregular spots, splashes and lines. The number found in a nest ranges from four to six.

So adaptable is the Grackle that if there is no convenient limb suitable for holding its nest, it will search for a cavity in some stump or tree and there build the cradle for its young. Down in the pine barrens of south Florida I once saw a female Grackle enter the hole made by a Flicker in a dead stump 10 to 12 feet from the ground. Upon climbing up and looking in I was met by the open mouths of four hungry young. The trees in that section were not numerous, their limbs were few, and were covered with very thin foliage. So the Grackles simply took what they could find for a nesting-place, and appeared to be content.

Both parents share in the duties of caring for the young, which, like other birds, demand a large amount of food, especially while still in the nest. As soon as the little ones are able to care for themselves, numerous families of Grackles unite and forage about the country. In the late evening these flocks may be seen hurrying across fields and woodlands to some favorite roosting-place which is sometimes occupied nightly for many weeks before the birds begin their southern migration.

As a rule, Grackles are not popular with farmers, and at times there are great outcries against their depredations. Sometimes, like Crows, they pull up the sprouting grain in the fields and very often in the late summer, while the corn is in 'the milk,' numbers of them will descend on the corn field, tear open the husks at the end of the ears and eat the soft kernels. Some people accuse Grackles also of eating the eggs and young of other birds. Audubon tells of this in his great work on the 'Birds of America,' but also as is his custom, he has left us an account of the good the birds do. In his interesting, poetic manner he writes:

"No sooner has the cotton or corn planter begun to turn his land into brown furrows, than the Crow-Blackbirds are seen sailing down from the skirts of the woods, alighting in the fields, and following his track along the ridges of newly-turned earth, with an elegant and elevated step, which shews them to be as fearless and free as the air through which they wing their way. The genial rays of the sun shine on their silky plumage, and offer to the ploughman's eye such rich and varying tints that no painter, however gifted, could ever imitate them. The coppery bronze, which in one light shews its rich gloss, is, by the least motion of the bird, changed in a moment to brilliant and deep azure, and again, in the next light, becomes refulgent sapphire or emerald-green.

"The bird stops, spreads its tail, lowers its wings, and, with swelled throat and open bill, sounds a call to those which may chance to be passing near. The stately step is resumed. Its keen eye, busily engaged on either side, is immediately attracted by a grub, hastening to hide itself from the sudden

exposure made by the plough. In vain does it hurry, for the Grackle has seen and marked it for its own, and it is snatched up and swallowed in a moment.

"Thus does the Grackle follow the husbandman as he turns one furrow after another, destroying a far worse enemy to the corn than itself, for every worm which it devours would else shortly cut the slender blade and thereby destroy the plant when it would perhaps be too late to renew it by fresh seed. Every reflecting farmer knows this well, and refrains from disturbing the Grackle at this season. Were he as merciful at another time, it would prove his grateful recollection of the services thus rendered him. But man is too often forgetful of the benefit which he has received; he permits his too commonly weak and selfish feelings to prevail over his reason, and no sooner does the corn become fit for his own use, than he vows and executes vengeance on all intruders."

Usually the note of the Grackle is a hoarse cluck, and while in flight various members of the company emit these unmusical calls. In spring the male indulges in what he probably considers a song. This consists of a short series of squeaky cries that have often been compared to the musical creaking of a rusty hinge. Often a whole flock of Grackles will be found standing about in the tree-tops pouring forth this weird melody, making an indescribable, and not overly pleasing, volume of sound.

The above are the notes usually heard, but they have several other calls and squeaks, all highly characteristic of Grackle music.

These birds seem to live serious, somber lives, and as Dr. Frank Chapman has pointed out, they appear never to play or to enjoy any of the lighter or more frivolous sensations of life.

A company of Grackles in flight is a sight worth watching. Often hundreds of birds advance through the air in almost perfect rank-formation. At times lines a hundred yards or more in length may be seen and their movements strongly suggest those of well-trained soldiers. In passing across the country, they generally move just above the tree-tops, remaining about the same distance from the ground even when crossing the open fields or meadows. The flight is direct, strong, and quite rapid.

Grackles at times come about the homes where kindly people provide food for the wild birds. Here it has often been noted that the big black bird is well able to take care of himself. The pugnacious English Sparrow seems to give him no concern, and the Robin and Blue Jay will immediately give ground when the Grackle indicates the slightest wish that they should depart.

By watching Grackles at feeding stations one may see them engage in interesting and most surprising activities. On one occasion while visiting friends who were in the habit of feeding birds in their back yard, the conversation was interrupted by an invitation to come out and see an old Grackle and her young. Members of the household had been feeding these birds for some days, giving them scraps of raw meat, crumbs, cracked corn, and other

delicacies. Shortly after we took our stand on the back porch, the mother Grackle approached her young with a dry and rather large piece of bread crust. The youngster instantly opened its mouth and obediently tried to swallow the hard lump that the mother thrust into it. It was, however, entirely too great and the bird soon gave up the attempt. The parent was insistent. Twice she picked up the discarded morsel and put it in the young bird's mouth, only to have it rejected. Then to our astonishment she took the crust in her bill and walking three or four feet to a pan of water, deliberately submerged it three times, after which she thrust it into the mouth of her young with successful result.

In the corn and millet fields of the South, the colored population often shoot and trap the Grackle for food. The meat, however, is very dark and the taste is strong. Furthermore, as these birds are often covered with vermin, they would appear to be very unattractive additions to the game-bag.

Grackles are found over much of the eastern two-thirds of North America. The bird that we have been discussing is called by naturalists *Quiscalus, quiscula* and is divided into three races. These are:

First, Purple Grackle, which, according to the American Ornithologists' Union Check-List, ranges over the country as follows:

"Middle Atlantic coast region of the United States. Breeds in the Carolinian Fauna from the north shore of Long Island Sound and the lower Hudson Valley west to the Alleghanies and south to the uplands of Georgia, Alabama, and eastern Tennessee; winters mainly south of the Delaware Valley."

Very closely allied with it is the Florida Grackle which is found along the south Atlantic coast from South Carolina to southern Florida and westward over the southern part of the Gulf States to southeastern Texas. This bird so closely resembles the Purple Grackle that an observer by merely seeing the birds in the field could not distinguish them. Measurements would show that, in the Florida bird, the wing is about a half-inch shorter, the tail slightly shorter, and the bill slightly longer.

Third, the Bronzed Grackle. This bird, according to the Check-List quoted above, ranges through "Central and eastern North America. Breeds from Great Slave Lake, central Keewatin, Nova Scotia, and Newfoundland south to Montana and Colorado (east of the Rocky Mountains) and southeast to the northern part of the Gulf States, western Pennsylvania, New York, and Massachusetts (south of New York breeds only west of the Alleghanies); winters mainly from the Ohio Valley south to southern Texas; casual in migration on the south Atlantic coast."

In size the Bronzed Grackle can be said to be intermediate between the Purple Grackle and the Florida Grackle. It may be distinguished from the Purple Grackle at close range by noting that the back does not have the brilliant purple of the former, but is colored a metallic bronze, and the feathers do not have iridescent bars.

The Audubon Societies

EXECUTIVE DEPARTMENT

Edited by T. GILBERT PEARSON, Secretary

Address all correspondence, and send all remittances for dues and contributions, to the National Association of Audubon Societies, 1974 Broadway, New York City.
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$5 annually pays for a Sustaining Membership
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FORM OF BEQUEST:—I do hereby give and bequeath to the National Association of Audubon Societies for the Protection of Wild Birds and Animals (Incorporated), of the City of New York.

Annual Meeting

The Sixteenth Annual Meeting of the National Association of Audubon Societies will be held in the American Museum of Natural History, New York City, on Tuesday, October 26, 1920.

As usual, a public meeting with attractive program and moving pictures is being planned for the preceding evening. It is hoped that all members who find it convenient to do so will attend the various sessions.

The past year has been one of marked progress in all lines of activity in which the Association's efforts extend. Interest in bird-study and bird-protection throughout the country is constantly increasing, and it will be a source of great pleasure to many to learn of the accomplishments, not only of the National Association, but of its numerous affiliated groups of workers in the United States and Canada.

Bird Lectures for Florida

Members and friends of the Association who live in Florida, or who go there for the winter, will be interested in learning that Norman McClintock, of Pittsburgh, will be available for lecture engagements in that state for a few months beginning January, 1921.

Mr. McClintock and his moving pictures are already well known to many Florida audiences. During the past summer he has been engaged in taking additional pictures of Florida wild bird-life. Especially has he been successful in photographing the marvelous abundance of wild life which is found at that season on the National Association's reservation in Orange Lake.

In addition to general views, he has made many close-up studies of Little Blue Herons, White Ibises, Water Turkeys, and both species of the exquisite white Egrets. To view the intimate home life of these birds, which most people see only as they wing their way across some distant pond or prairie, will be a most unusual opportunity. The pictures, combined with Mr. McClintock's well-known abilities as a pleasing speaker, make of his entertainments occasions that linger long in the memory.

Members of the Association and others in the state are invited to correspond with Mr. McClintock or with the home office in New York City with a view of making local arrangements to secure Mr. McClintock's lectures. There are a hundred and twenty-five moving-picture houses in Florida, and it should not be difficult in almost any community to secure the use of a moving-picture machine and operator for such an occasion.

THE LIFE WORK OF WILLIAM DUTCHER

By T. S. PALMER

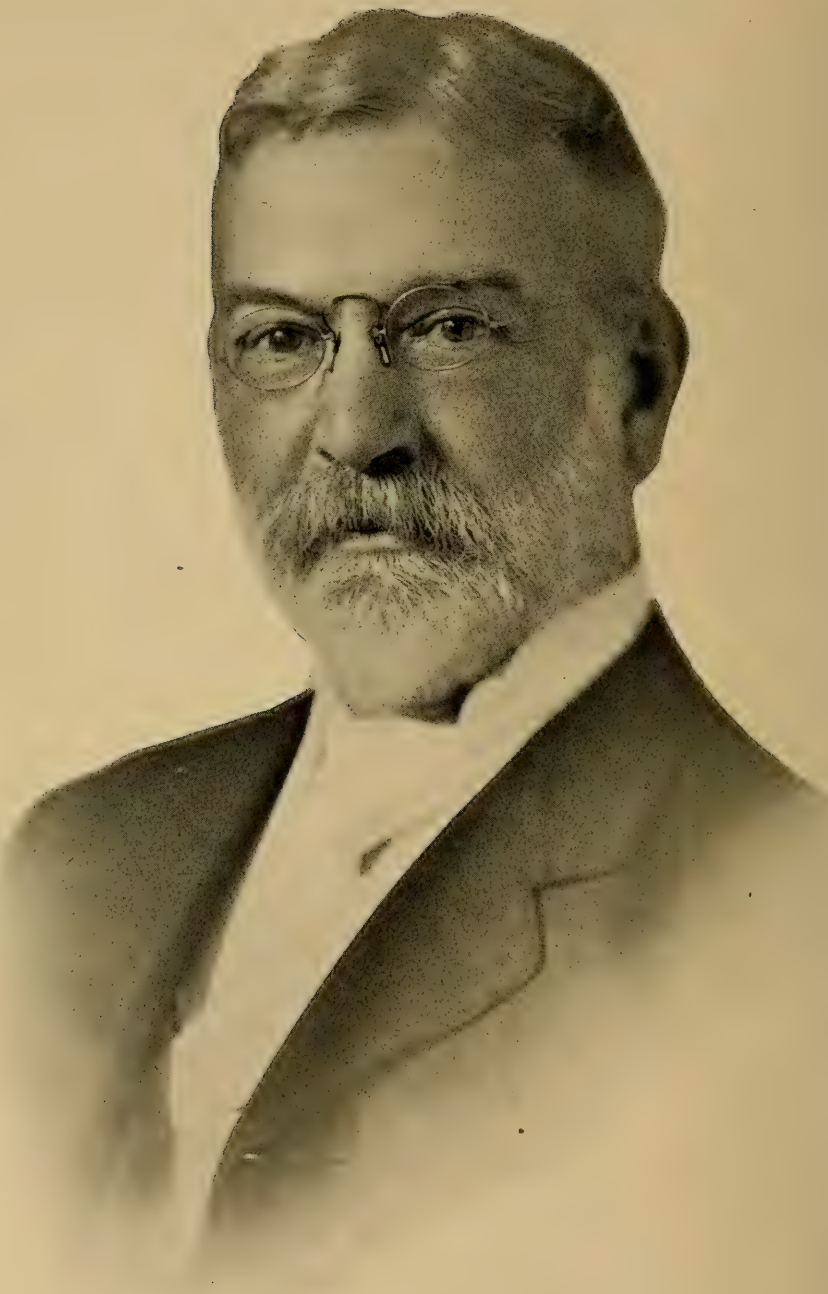
In his work for bird-protection William Dutcher has erected an enduring monument and left a record which should prove a source of inspiration to many. Deeply engrossed with the cares of an active business life in New York City, he found recreation among the birds and developed a vocation from what was at first merely an avocation. Energy, sincerity, sympathy and a remarkable tenacity of purpose were some of the characteristics which enabled him to overcome obstacles that would have disheartened a less determined man and made it possible to score success under conditions that seemed to invite nothing but failure.

His published contributions to ornithology and bird-protection began when he was 33 years of age and continued during a period of somewhat more than thirty years. These contributions number about 100 titles and comprise notes on the birds of Long Island, a few general papers on birds, a series of annual reports and brief notes on bird-protection, and twenty or more popular leaflets on common birds.

As a young man he was fond of hunting and spent his holidays during the hunting season shooting on the shores of Long Island. Here, in May, 1879, he secured a strange bird which proved to be rare in that locality. This bird was Wilson's Plover, a species which Alexander Wilson, father of American ornithology, had collected in 1813 at Cape May, N. J., three months before his death, and which was subsequently described and named in his honor. It is now known to be common along the south Atlantic and Gulf coasts, but is uncommon north of Delaware Bay. Dutcher's specimen was the subject of his first published note which appeared in the Bulletin of the Nuttall Ornithological Club the following October. To the casual reader this modest paragraph of six lines may seem rather unimportant, but it marked the beginning of a long series of notes on the birds of Long Island, a subject in which he never lost interest and one on which he was generally recognized as an authority. It was his ambition to publish a comprehensive work on Long Island birds and he brought together a valuable collection of specimens and all the literature obtainable, but when other subjects later absorbed his attention, he generously placed his notes at the disposal of others and deposited his collection in the American Museum of Natural History in New York.

In the course of his collecting he became interested in certain species which were made the subject of special investigation as, for example, the Labrador Duck and the Herring Gull. In the case of the former he gathered all the data available regarding the North American specimens and was able to increase the list of known specimens of this extinct bird at least 30 per cent. In the case of the latter, in coöperation with W. L. Baily, he summarized the observations of three seasons on the coast of Maine.

Dutcher's work in scientific organizations began about the time of his first publication, when he became a member of the Linnæan Society of New York, and all his later work was done in connection with some organization. When the American Ornithologists' Union was founded in 1883, he was elected an associate member, and the following year was appointed on the Committee on Protection of North American Birds. The real work of the committee began at a meeting held in his office at 51 Liberty Street, New York City, in December, 1885. The chairman was George B. Sennett and two of the most active members were George Bird Grinnell, editor of *Forest and Stream*, and William Dutcher. The important accomplishments of this committee during the three years of its activity were the organization of the original Audubon Society with a large membership and the drafting of a model law for the protection of non-game birds. This law, subsequently known as the 'A. O. U. Law' and the 'Audubon Law,' has been



WILLIAM DUTCHER

WILLIAM DUTCHER AT 47 YEARS OF AGE

adopted by many states and its principles have been incorporated in the recent migratory bird treaty protecting the birds which migrate between the United States and Canada.

In the meantime, in 1886, Mr. Dutcher had been made an active member of the American Ornithologists' Union and the following year was elected treasurer. This office he continued to hold for sixteen years, until other matters demanded so much of his time that he felt obliged to retire. Much of the success of the Union during those years was due to the high degree of efficiency with which he conducted its affairs.

With the increased destruction of birds to meet the demands of the millinery trade, the A. O. U. Committee on Protection of North American Birds was reorganized in 1896. During the next decade Mr. Dutcher was its most active member and served as chairman in 1896 and 1897 and from 1901 to 1905. Under his energetic leadership these were years of great activity and progress in bird-protection. Audubon Societies were organized in rapid succession in several states and when the necessity for greater uniformity of effort became apparent, a National Committee, comprising representatives from the state societies was formed in 1901. This was really the founding of the National Association of Audubon Societies, which was incorporated in January, 1905. At the first meeting he was elected president and continued in this office until his death. In his annual report for 1904 he has given an interesting 'History of the Audubon Movement' during the preceding twenty years.

From 1896 to 1910 every important project for bird-protection at home or abroad received Mr. Dutcher's enthusiastic support. Prohibition of the traffic in seabirds' eggs on the Farallone Islands in California, aiding the passage of the Lacey Act in 1900, administering the Thayer Fund for protecting colonies of Gulls and Terns on the Atlantic coast, and taking part in the various movements to prohibit spring shooting, to stop the sale of aigrettes and restrict the traffic in plumage, to assist in the passage of hunting license laws so

that the states might raise adequate funds for warden service—all these and many others occupied his attention. He journeyed to the legislatures of a dozen or more states, from Maine to Louisiana, in behalf of better bird-laws—to some of the state capitals repeatedly, and to Albany and Trenton annually, when important bird-bills were under consideration. The successful results of the work under the Thayer Fund, which for the first time in this country provided the means for employing wardens to guard the colonies of breeding sea-birds along the coast, naturally led to plans for establishing permanent bird refuges. Pelican Island in Florida was selected for the initial experiment, and, on his recommendation, made through the United States Department of Agriculture, President Roosevelt, on March 14, 1903, reserved the island as "a preserve and breeding ground for native birds" and thus established the first National Bird Reservation.

WILLIAM DUTCHER WHEN A YOUNG MAN

The rapidly increasing activities of the National Association were seriously handicapped by lack of adequate funds and Mr. Dutcher, who devoted much time and energy to meeting the deficiency, was accustomed to say that the Association should have an endowment fund of a million dollars. By a most fortunate circumstance the work of the Association attracted the attention of the late Albert Wilcox, who, after meeting its president, made the Association one of the residuary legatees under his will. Upon his death, which occurred in 1906, the National Association received a bequest of $331,072 and the permanency of its work was at once assured. Recognition of Mr. Dutcher's efforts was also manifested in other ways both at home and abroad. The Camp-Fire Club of America conferred upon him its gold medal in appreciation of his efforts in behalf of the protection of wild life, and in England the Royal Society for the Protection of Birds made him one of its Honorary Fellows.

The year 1910 may be regarded as the crowning point of Mr. Dutcher's work, when he went abroad as the representative of the National Association of Audubon Societies. In the summer of that year he attended the International Congress of Ornithology in Berlin, where on behalf of the Association he extended an invitation to the Congress to hold its next meeting in the United States, was appointed a member of the International Committee on Protection of Birds, and presented a paper on 'International Bird-Protection.' This was his last formal publication. Three months after his return to New York City he suffered a stroke of apoplexy which completely paralyzed his right side and left him speechless. Of the heroic patience with which he endured his affliction for nearly ten years it is unnecessary to speak in this connection further than to mention that during all this time he never lost his interest in birds. When other topics failed to arouse his enthusiasm, he still took delight in hearing and reading about his favorite subject of bird-protection, and, in spite of suffering and sorrow, he kept fully informed of the progress of the work. Before his death he at least had the satisfaction of knowing that he had not labored in vain, and he was able to witness the successful outcome of many of the projects to which he had given his best energies. Traffic in plumage had been restricted by the Tariff Act, and spring shooting and the sale of aigrettes and migratory birds prohibited by the Migratory Bird Treaty Act. The National Bird Reservations had increased to more than 70, the annual income of the National Association of Audubon Societies, through the energy and skillful

management of the Secretary, T. Gilbert Pearson, was nearly $150,000, and the dream of a million dollar endowment fund had been realized to the extent of a permanent fund of nearly half that amount.

EXPLORING FOR NEW BIRD COLONIES

By T. GILBERT PEARSON

Illustrated with Photographs by the Author

(Concluded)

Leaving the Second Chain-of-Islands, with their nesting colonies of Reddish Egrets, Herons, Terns, Skimmers and Laughing Gulls, we ran northward into the open waters of San Antonio Bay, Texas. On the right we passed the low-lying sand shoal known as Bird Island, where in 1918 I had found a small colony of breeding Brown Pelicans. Our field glasses failed to reveal any signs of life that day, however. Later four Man-o'-War Birds were seen perched on the cross-pieces of channel stakes. Occasionally Laughing Gulls and Terns were seen. At the northern end of the bay, a flock of eighteen Roseate Spoonbills went by in their usual flight formation. Passing through the canal at Port o'Connor, we entered Matagorda Bay and late that evening turned sharply to the left into the body of water known as Carancahua Bay. On a small sand spit at the entrance we were greeted with the sight of eight stately Wood Ibis, two elegant Roseate Spoonbills, and five dainty and vivacious Snowy Egrets. All the way up the bay, flocks of Herons passed us which augured well for the success of our search for a rookery said to exist in that region. In the rain that night, just before dark, we dropped anchor at the head of Carancahua Bay.

In the early morning a landing was made. Here, on the point of a little peninsula on Wolf Point Ranch, several hundred pairs of Louisiana Herons and Ward's Herons were breeding. The colony was also occupied by about fifty pairs of large Egrets with a larger number—perhaps seventy-five pairs—of Snowy Egrets. Great-tailed Grackles, Black-crowned Night Herons, and Black Vultures were also numerous.

While the Finleys made moving pictures from their blind set up in the rookery, I rode over much of the surrounding country in company with W. R. Sells, the plantation owner. Along the shore and about the sloughs we found many Black-necked Stilts and Western Willets. I was inter-

CARANCAHUA BAY ROOKERY, TEXAS
The white spots are Snowy Egrets

ON BIG BIRD ISLAND, LAGUNA DE LA MADRE, TEXAS

A GROUND NEST OF THE REDDISH EGRET BIG BIRD ISLAND, TEXAS

IN A CABOT'S TERN COLONY, BIG BIRD ISLAND, TEXAS

NESTS OF THE CASPIAN TERN, BIG BIRD ISLAND, TEXAS

EGGS OF THE CABOT'S TERN, BIG BIRD ISLAND, TEXAS

NEST AND EGGS OF THE LAUGHING GULL, BIG BIRD ISLAND, TEXAS

ested to note that a Caracara which flew by was carrying its prey in its bill. I do not recall ever before having seen a bird-of-prey bearing food in flight otherwise than in its talons. In the slender, stunted growths of live oak trees about the ranch house, Great-tailed Grackles were clamoring in great numbers. The trees held at least a thousand of their nests.

In addition to this cruise in the boat 'Jim Duke,' I visited other points on the lower Texas coast. One of these was a small group of bars lying back of Harbor Island on the northern edge of Corpus Christi Bay and just inside Aransas Pass Inlet. Black Skimmers, Laughing Gulls, and Royal Terns made up the colonies at this place. Late one evening I landed on Dead Man Island near Corpus Pass, where a community of at least 2,000 Brown Pelicans were caring for their young.

For twenty years rumors had occasionally reached me of a famous bird-island south of Corpus Christi in Laguna de la Madre. One of my objects in visiting the Texas coast was to search out and examine this island. This was accomplished on May 23, 1920, by means of a shallow draft power boat. The island, or rather islands, for there are two of them, is situated about 32 miles below Corpus Christi. Big Bird Island proved to be one of the largest breeding-places of sea-birds on the Gulf Coast of the United States. About 35,000 nests of Royal Terns were discovered, perhaps nineteen of every twenty containing only one egg, the others two. In a few hundred nests the young had already hatched or were hatching. Here also were groups of Caspian Terns' nests and a score or more of Forster's Terns' eggs were seen. There were Cabot's Terns to the extent of about 9,000 pairs, judging from a count of the nests. There were forty-eight occupied nests of the Brown Pelican built of sticks and weeds and all situated on the ground, as the island was not adorned by a single tree or living bush. Eight nests of the Reddish Egret, eleven of the Louisiana Heron, and twenty of the Ward's Heron were found. One of the most abundant species was the Laughing Gull, and the nests were hidden in the grass everywhere over the entire island. Their numbers were estimated to be anywhere from 10,000 to 40,000.

A mile away lies Little Bird Island, where seventy-three nests of the Caspian Tern were counted, the eggs being deposited on small layers of marsh grass, or, as was more frequently the case, in slight hollows in the bare sand. At least seventy-five pairs of Ward's Herons also had eggs or young. The most interesting discovery was that of a small colony of White Pelicans. Eight were seen leaving the Island as we approached and forty-two others arose from the ground as we landed. Investigation showed eighteen young, three nests with eggs and ten eggs scattered about on the ground. The point of chief interest in connection with the breeding of these birds on Little Bird Island is that heretofore we have not known them to nest in the United States at any point east of Chase Lake, North Dakota, or south of the Salton Sea in California. A warden, of course, was employed to represent the Association in guarding these two great communities of bird-life.

At Brownsville, Texas, I had the good fortune to meet R. D. Camp, a member of the Association and a most intelligent and enthusiastic field naturalist. On June 3, 1920, in company with him and another member, George C. Shupee, of San Antonio, I journeyed 22 miles by narrow-gauge railroad to Point Isabel. Here Mr. Camp secured the services of a Mexican with a shallow draft sailing vessel, and, laying in three days' provisions, I again set sail on the waters of Laguna de la Madre, but this time heading northward. Our destination was Green Island, 32 miles up the Laguna. Mr. Camp had visited this place during the previous autumn and discovered signs of Herons having bred there. Our hopes were fully realized when, late the first day, we dropped anchor near the island. The bushes, covering many acres, were seen to be thickly populated with Herons, and flocks of birds continued to arrive from every direction until darkness fell. Daylight revealed the

WHITE PELICANS LEAVING THEIR NESTS, LITTLE BIRD ISLAND, TEXAS

YOUNG WHITE PELICANS ON NESTING GROUNDS, LITTLE BIRD ISLAND, TEXAS

WHITE PELICANS FLYING OVER THEIR BREEDING PLACE
LITTLE BIRD ISLAND, TEXAS

IN THE CHACHALACA COUNTRY, CAMERON COUNTY, TEXAS. A RETOUCHED PICTURE OF ONE OF THE BIRDS MAY BE SEEN IN THE BACKGROUND

fact that we were probably viewing one of the largest Heron colonies left in this country. Surely it contained the largest number of Reddish Egrets of any known colony of these birds within our borders. We estimated the entire population of Reddish Egrets, Ward's Herons, Louisiana Herons, Black-crowned Night Herons and Snowy Egrets to be anywhere from 5,000 to 10,000. The Reddish Egret was easily the dominating species and we were greatly interested to find twenty or more of them to be in the white phase of plumage. Steps have been taken to extend adequate protection to this rookery of breeding birds.

The Brownsville region is a realm of interest to the ornithologist. Here, back in the eighties, the ornithologist, Sennett, discovered many birds not before recorded in the United States. It was while hunting for a breeding colony of Mexican Cormorants that, on June 6, I had the pleasure of seeing some of these rarieties of the Southeast. One was the Chachalaca or Guan, the only representative of the family found in this country. In a superficial way, perhaps, it resembles a Pheasant more than any other American bird. Being highly esteemed for food, and therefore persistently sought by local gunners, it is fast disappearing over the two or three counties of southeastern Texas which seems to constitute its entire range in the

A CHACHALACA THIRTEEN MONTHS OLD, HATCHED AND REARED IN CAPTIVITY
These birds are often raised by the Mexicans along the Rio Grande River

United States. Under the guidance of Mr. Camp, and his friend Mr. Farmer, I was privileged to visit the haunts of this extremely noisy and interesting bird. Here, also, we found the Groove-billed Ani, and the Red-billed Pigeon. One evening I had the delightful pleasure of a close inspection of a little Texas Kingfisher, the diminutive Ceryle of the lower Rio Grande.

SUNSET ON DEAD MAN ISLAND, CORPUS PASS, TEXAS

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Chatard, Miss Eleanor A.
Colby, Mrs. Frances Berry
Crosby, Mrs. S. V. R.
Eggleston, Julius W.
Emmet, W. L. R.
Fox, Miss A. M.
Hunt, Mrs. Thomas
Jameson, Mrs. S. B.
Koppelman, Charles H.
Locher, Mrs. M. McClure
McLane, Miss Elizabeth
Paine, Mrs. Richmond P.
Perot, T. Morris, Jr.
Petty, E. R.
Rosenwald, Mrs. Julius
Sampson, John A.
Schwehm, Harry J.
Speyer, Mrs. James
Straight, Mrs. Willard
Stutzer, Miss Elise W.
Williams, Richard E.
Young, Miss Emily W.

New Sustaining Members Enrolled from July 1 to September 1, 1920

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Addicks, Lawrence
Baker, Miss Esther H.
Behre, Mrs. John H.
Berggraf, Randall S.
Capewell, George J., Jr.
Carter, Stuart Barns
Davis, Solomon
Deerow, Marion L.
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Eldridge, Mrs. G. Perry
Finch, Mrs. J. T.
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Hills, J. Douglas
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Scull, Mrs. Gideon
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Varley, Mrs. Geo.
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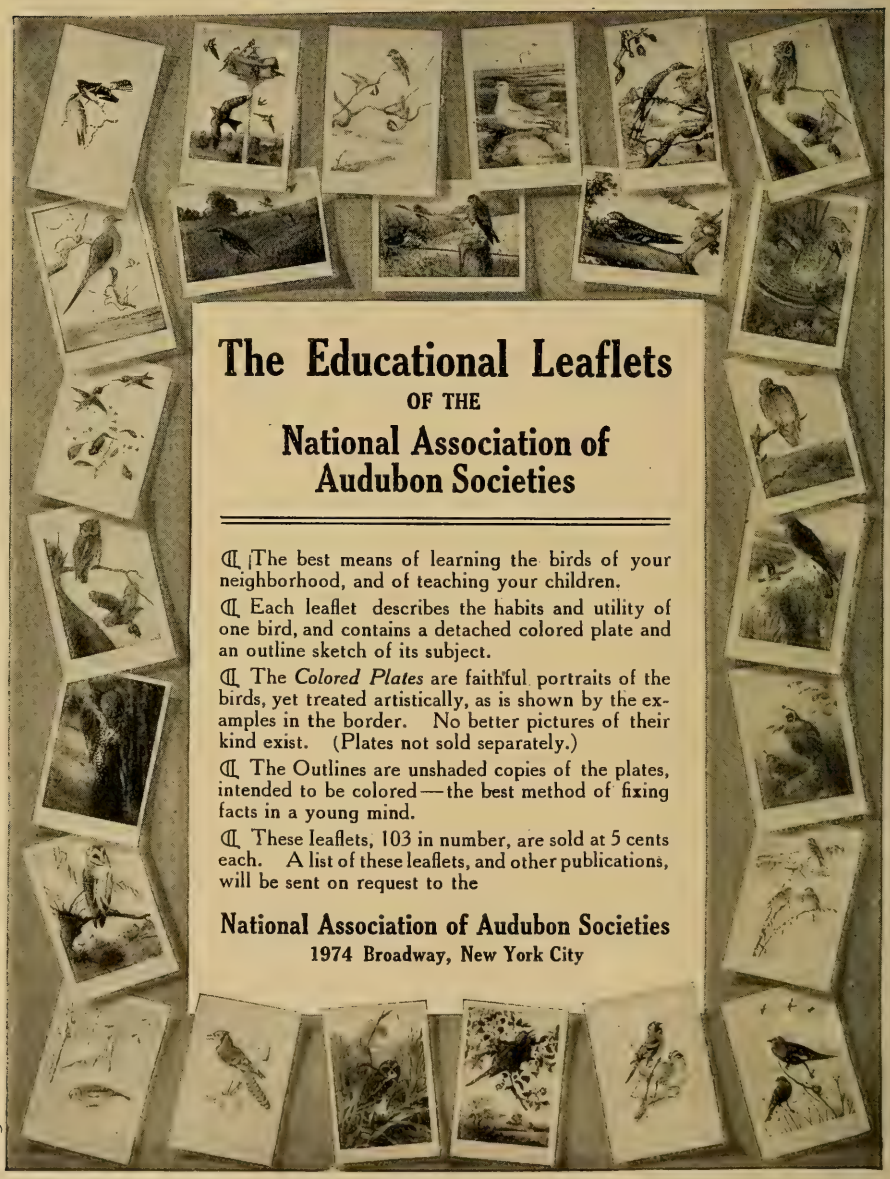

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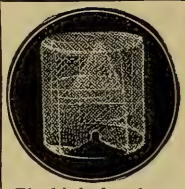

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November-December, 1920

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By FRANK M. CHAPMAN

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Bird-Lore

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DEVOTED TO THE STUDY AND PROTECTION OF BIRDS
OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Vol. XXII NOVEMBER—DECEMBER, 1920 No. 6

A Partridge Don Quixote

By HOWARD H. CLEAVES

Photographs by the Author, Reproduced through Courtesy of New York State Conservation Commission

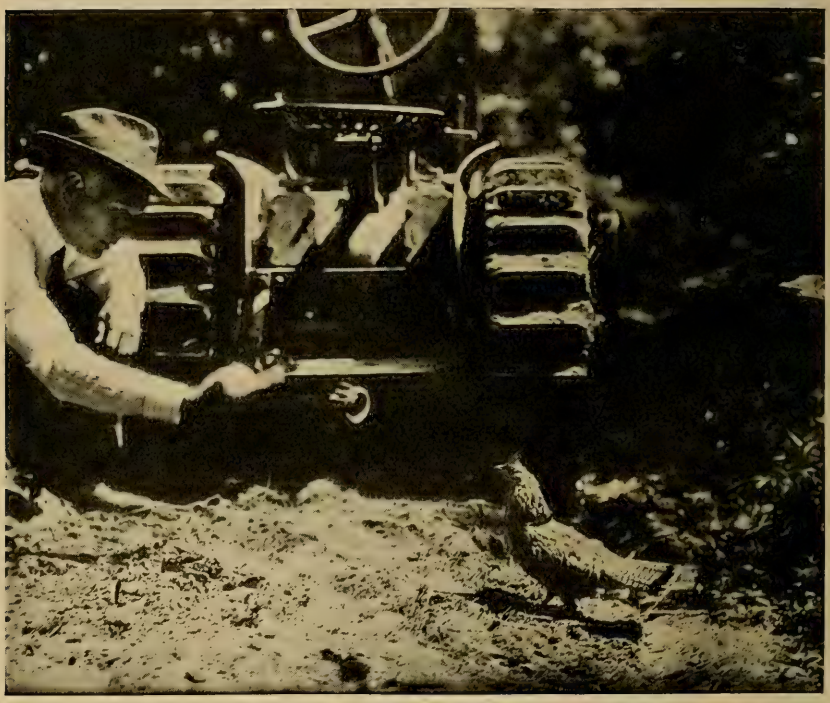
BILLY is a Don Quixote among Partridges. But instead of engaging in combat with windmills he goes forth to battle with motor tractors. Before news of him reached us he had for months been hurling challenge after challenge at his superior adversary. The 'sector' held by Billy was a certain tract of woodland on the farm of A. H. Armstrong, not far from Schenectady, N. Y. As we neared the farm by automobile on the State Road, it seemed to us that the territory was not what would be pointed out by an experienced hunter as good Grouse-cover. There were potatoes and various grains growing in wide fields separated by fences or narrow strips of trees and shrubs, and here and there were clean young orchards. But back from the road, as we were presently to discover, were many large pieces of uncleared land, and it was in one of these that Billy, the militant Partridge, had made his home.

Mr. Armstrong led the way to the shed where his sixty horse-power Bates Steel 'Mule' stood on its caterpillar feet, and in a few moments the iron steed backed from its stall amid a cloud of dust and blue exhaust. "Follow along close behind" shouted our host from his swaying seat as he 'stepped on the gas' and started the great 'tank' on its creeping, lurching way down the crooked wood road. The four semi-skeptical guests, including one lady, fell in at the rear like supporting infantry, but we were armed only with cameras and field glasses as the 'caravan' advanced into the country of the 'enemy.'

"A unique bird walk!" I said to myself, as I thought of the traditional, tip-toe bird student who whispers "shush" to his followers and leads the stealthy pursuit of some timid and fleeting Warbler or Flycatcher.

The tractor rumbled across a bridge and up a winding grade, over ruts and rocks and through mud holes, the motor throbbing and pulsating loudly or softly as the occasion required. Presently the driver looked back over his shoulder and began speaking to us. We drew up closer and were informed that

just ahead was the stretch of road most frequented by the bird. I gripped my Graflex more tightly, fingered its shutter adjustments, and made certain the slide was drawn—precautions usually indulged in as a matter of routine, but on this occasion checked up several times over.



"BILLY DARTED TOWARD MR. ARMSTRONG'S FEET"

We had gone only a few yards farther when up went the cry, "There he is now." And there he was, twenty-five yards up the road, his ruff extended and his head lowered and jerking nervously, after the manner of a rooster about to make battle with his foe. Billy took the middle of the lane and, following a peculiar, sinuous course, came steadily on to meet us with reckless abandon. The contrast was absurd. On the one side was a wild bird not larger than a bantam, and on the other were five adult humans led by a mobile mass of several thousand pounds of steel from which emanated a loud noise: a feathered David and a mechanical Goliath.

At the instant when it seemed that further advance by either side would mean annihilation for the eccentric Grouse, the pilot brought his tractor to a stop and descended to the ground, whereupon began one of the most remarkable of exhibitions. Billy darted toward Mr. Armstrong's feet and pecked at his trousers, and when Mr. Armstrong walked away the bird ran after him with the greatest agility, striking with wing or beak on coming within range.

If a hand were extended toward him, Billy would peck it also and, most extraordinary of all, he would permit himself to be picked up and freely handled, perching on finger, wrist, or shoulder. When on the latter he was invariably prompted to investigate one's eyes and nose with his sharp beak!

As the sport proceeded it began to occur to us that what had at first appeared to be combativeness was apparently, after all, only a vigorous form of playfulness. Although the bird gave his best exhibitions under Mr. Armstrong's direction, he was by no means partial and would respond to advances by any of us. The thrill of having a wild Partridge hop upon one's hand can be appreciated only by those who have had the experience. Once when I raised him on my hand he had been 'boxing' so strenuously that he was panting, with his mouth wide open, but his brown eyes snapped and twinkled, his crest was raised to its limit and his tail outspread—evidences of a keenness to go at it again on the slightest provocation. Curiously, his ruff was never raised, except when he first came out of the woods to meet us. When held on the hand, not more than a dozen inches from one's face, he could be heard to utter a soft, craking sound, his only vocal effort.

When on the ground and not engaged in a 'bout' with one of us, he would walk nervously about, plucking at grasses beside the road, but never eating anything. At other times he stood motionless looking up at the ring of admirers, seemingly awaiting an aggressive movement on the part of one of them. Throughout our stay of over half an hour the tractor motor was left running,

A GROUSE ON THE SHOULDER

as Mr. Armstrong believed the sound of this was largely responsible for the bird's sustained interest. Our visit came to a triumphant conclusion with the most sensational 'act' of all when Mr. Armstrong took the bird with him to the seat of the tractor and went rolling and thundering away down the road with Billy riding on his shoulder!

Billy is not the first queer Grouse whose acquaintance has been made in New York state. He is the 1920 male counterpart of 'Biddy,' the now famous

". . . TOOK THE BIRD WITH HIM TO THE SEAT OF THE TRACTOR"

hen Partridge who lived in the wooded hills near Oneonta and became friendly with a company of wood-choppers in midwinter. Even when summer (1918) came, Biddy could be easily coaxed from her cover by the sound of chopping wood or the beating of a club on a log. She would box and play but would not voluntarily permit herself to be picked up. A noteworthy incident in Biddy's career was her disappearance at the opening of the hunting season in 1918 and her reappearance nearly a year later at West Burlington, Otsego County, approximately twenty miles northwest of her home of the year before. One would not expect a representative of a supposedly 'sedentary' species to travel

so far. An account of Biddy appeared in BIRD-LORE for 1918 (p. 492). Nothing has been seen of her since the autumn of 1919.

Still a third 'crazy' Partridge was discovered by the writer during early October of the present year near the village of Lewis in Essex County. My father and I were driving in a Ford roadster and had halted the car on a back

A GROUSE IN THE HAND

country road in order to admire the autumn foliage. The motor had been left running. We had sat for only a minute or two when I heard a rustling among the dead leaves at the edge of the woods beside the road. I supposed it a chipmunk, but turned my head slowly and was astonished to see a Partridge running straight toward us. When at a distance of about fifteen feet the bird (which seemed to be a female or young male) took his stand on top of a log and stood in a rigid attitude eyeing us closely. Only a thin screen of maple

saplings separated us. After both the bird and we had remained motionless for what seemed a long time, I raised myself cautiously over the side of the car and approached the bird. The latter did not fly and gave no sign of being startled. He merely stepped from his log, lowered his head, and began walking among the underbrush with the same sinuous movement which was characteristic of both Biddy and Billy. He kept six or eight feet beyond my reach, and when I stopped, he stopped. On several occasions he circled partly around me instead of retiring directly in my path.

Matters stood as described when there came a call from the road (which was very narrow) informing me that another car was approaching. Not wishing to disclose the bird's presence to possibly hostile strangers, the experience was terminated much before I wished. With more time it is easy to imagine that I might have induced as great confidence in bird number three as had been displayed by numbers one and two.

It seems obvious that each of these Grouse was attracted in the first instance by some artificial sound which either closely or somewhat resembled the drumming of a wild cock Partridge; but it is difficult if not impossible satisfactorily to diagnose the peculiar and intimate conduct of the birds with relation both to persons and to unnatural mechanical objects, such as tractors and automobiles.

Why Do Birds Bathe?

By ERNEST THOMPSON SETON, Greenwich, Conn.

HAS anyone fully answered the question, Why do birds bathe? Also, What birds, at what time of day, and what season of the year?

There are four kinds of baths that birds commonly take: Sun-bath, dust-bath, shower-bath, and plunge-bath.

I have often seen Eagles, Hawks, Owls, Grouse, Quail, and Turkey Buzzards give themselves a sun-bath in some sunny sheltered nook. Here they will stretch out in various ways and raise their wings to let the sun reach the underparts. This is the simplest proof that it *is* a sun-bath; without that pose one might not know.

Most of the Grouse family, as well as the barn-fowls, take dust-baths. Nearly all of the Sparrow tribes take shower- or plunge-baths, but outside of the Divers, Gulls, Ducks, Sparrows and Thrushes, I never saw any bird take a water-bath, and I think they take it only during the hottest part of the morning. I have often seen Swallows take a shower-bath in the rain and a plunge as they fly over the water, but I never saw one take a dust-bath. Of all the water-bathers, I suppose the Robin is the extreme example. He is a crank on the subject. I have seen a Robin soak himself till he could scarcely fly, but I never saw a Hawk or an Owl, a Crow or a Grouse take a cold-water bath.

We know that sun-bathing is a fine tonic and a powerful killer of germs;

and we are told that dust-bathing is at least a partial cure for feather-lice. Water-bathing doubtless is a cleansing operation, but why is it taken? I never saw a Robin or a Grackle with muddied plumage. Why do they do it? How often? What other birds do it? If some of our young bird-folk would make a list of the birds they have seen bathing, together with the manner, the time of day, and season of the year, it would afford new and valuable light, and would, I think, show that no birds outside of the perchers, and Ducks and the Gulls, and the swimming birds ever take a water-bath. So far as I know, the only one to take all these kinds—sun-bath, dust-bath, and water-bath—is the despised English Sparrow, to which habits perhaps its vigorous health is largely due. I think I have even seen it wallowing in the snow when no other bathing opportunity was at hand.

As a beginning, I tabulate my observations of various groups, etc. No doubt they will be greatly modified by fuller study.

	Sun-Bath	Dust-Bath	Shower-Bath	Plunge-Bath	When
Divers	Yes	No	Yes	Yes	Any time
Gulls	Yes	No	Yes	Yes	
Ducks	Yes	No	Yes	Yes	
Grouse	Yes	Yes	No	No	Any time of day when the sun is strong
Barn-fowl	Yes	Yes	No	No	
Pigeons	Yes	Yes	No	No	
Eagles	Yes	Yes	No	No	
Hawks	Yes	No	No	No	
Owls	Yes	No	No	No	
Pigeons	No	No	Yes	Yes	
Sparrows	No	Yes	Yes	Yes	
English Sparrow	Yes	Yes	Yes	Yes	The heat of the day
Robin	No	No	Yes	Yes	

THE BOAT-BLIND

The Boat-Blind in the Snow

By G. A. BAILEY, Geneseo, N. Y.
With Photographs by the Author

JUNCO

THE boat-blind was originally designed for use in the water and along the shore where a steep bank made it impracticable to move a blind on runners or wheels. The blind is made like a boat in the lower part and has ample size so that a person can sleep in it comfortably when necessary. It is 7½ feet long and 3 feet wide. The whole of the blind has a covering that is rain-tight, and the front end is higher, to accommodate a person sitting in a chair. After trying the blind out one season at Sand Point, Conesus Lake, N. Y., it was moved to town where for two seasons it has been idle.

In December, 1919, it was moved to a lot where there was an abundance of pigweed and ragweed, with a border of shrubs and bushes. This setting, while poor from an agricultural standpoint, was ideal from the standpoint of a person who wanted to get bird pictures,

TREE SPARROWS

It was not long after the blind was installed, with plenty of seeds of millet and hemp, etc., before the Tree Sparrows, Juncos, and Song Sparrows began to come regularly. However, the real visitors that I hoped for in this inviting spot were the Redpolls. I had seen them in this region before, and I was particularly anxious that they should pay this blind a visit and allow me the pleasure of adding their pictures to my collection.

The boat-blind was arranged with the front toward the north, but the low sun cast a long shadow. To get the birds to feed above this shadow I built a snow pyramid high enough so that they were in sunlight whenever the sun shone. Frequent thaws and blowing snow made many changes in the original pyramid, but between us we managed to keep the apex high enough to avoid the shadow.

REDPOLLS

At first, millet and canary seed were put in a can on the top of the pyramid and buried in the snow with only the top in sight. Whenever I made pictures I removed the can, filled up the hole with snow, and made a new opening filled with seed. The opening was not more than 2 inches across, and I was thus enabled to get the birds to come to a small area rather than feed over a broad surface. To avoid getting them behind the feeding opening, I made a snow-back high enough to force them to eat from the side. I also preferred to have them on the left of the opening in the afternoons, so a small pigweed kept them away from the right side. Birds are usually careless in their table manners and scatter seed about in a rather reckless manner. To prevent their spending too much time picking up crumbs, I used to cover all the loose seed with fine snow, to force them to feed in the proper place. While the Tree Sparrows and Juncos were not new to the camera, I used to try to get them in different poses while I was waiting for the Redpolls to come.

TREE SPARROW

Speaking of the Redpolls, they were early in the field. From the port-holes I could see them feeding on the pigweeds that grew so abundantly all around the blind. Seeing them eat from divers pigweeds and seeing them eat from some particular spot on a snow pyramid proved to be two distinct observations. They did not care for millet or any patent form of bird-food. They were the original consumers of pigweed seed, apparently, and they proposed to stand by this abundant and nourishing diet. When they wouldn't come to the seed I had selected I was forced to compromise. This I did by selecting the most vigorous and stately pigweeds that the farm afforded and sticking them over the snow pyramid. The pyramid began to take on the appearance of a monster pin-cushion. For a

time the Redpolls found aplenty that I had missed, but I kept cutting and building until most of the weeds had been brought to the blind. Then, late one afternoon while I was watching them, a little group of three flew to the row of pigweeds back of the millet. I snapped the shutter, but the hour was too late, and the images proved to be too faint. However, this was encouraging, for they had come to the weeds on the top of the pyramid. The next day was sunny and I spent it in the blind and made several exposures of the Redpolls.

A DISPUTE AT THE POLE

Inside the boat-blind, I was using, for the most part, four cameras. A 5x7 and a stereo-camera were used for making pictures, and two 4 x 5 cameras with lenses open and focused on the feeding-places were used to keep watch of the birds that came. I have found that looking out from a dark blind onto snow in sunshine is very tiring to the eyes. The use of an open camera by the side of one that makes the picture also gives you a very good idea of the way your picture will look when it is finished.

In the latter part of March the weather had warmed so much that the snow pyramid began to grow smaller and the Redpolls retreated before the same weather that spoiled their feeding-station. Another year it will be operated near the same spot in the hope that some new visitors may come.

A Winter Chronicle, 1918-19

By KATHARINE UPHAM HUNTER, West Claremont, N. H.

THE Catbird, taking a sun-bath on a crosspiece of the pergola, regarded that other biped on the brick floor below with a wary black eye; occasionally he reached for a woodbine berry and gorged it, then he puffed his feathers and settled himself again. It was mid-October; the summer birds had gone and the chill day was a forecast of winter.

The Catbird and I huddled ourselves in the only patch of sunshine and half-dozed in its warmth. Around the corner the wind blustered about its coming league with Jack Frost and snow. I shivered with my dead flowers, for the North Wind filled me with dismay. At that moment I was in spirit a lotos-eater, eager to follow the belated Catbird on his journey to Cuba or lazy Mexico, to bright skies and tropical climate. But I did not go. I wished the bird a pleasant journey and went indoors to heap wood in the fireplace. Perhaps there is a bit of the endurance of our ancestors (inherited with our consciences) that bids us New Englanders weather the blasts of winter!

Next day the Catbird was gone and I, out in the orchard filling boxes and swinging-trays with hemp, rape and sunflower seeds, and tacking suet to the twisted apple trees, felt again the lure of winter. The keen air invited me to explore. In a clearing on a woodland road I saw a Downy Woodpecker on a goldenrod stalk hammering and hammering at the frail plant which swayed perilously with each blow. I found what I had expected, round galls drilled full of tiny holes. So Downy is an epicure and has his own *caviar!*

Over my head and over the dusky tops of the pine trees the last Bluebirds were flying away to the South; the scattered band moved slowly, regretfully, as though loath to leave the northern home where they had fulfilled once again their destiny, and earned their place in the sun. Their soft voices floated down to me, mournfully, caressingly. Then I fell awondering what birds would seek my hospitality during the cold months before 'winsome Bluebird' would again gladden our hearts. If one lives in the country, the real country, where one may walk miles on one's acres without coming upon any being unfurred and unfeathered, then one invests these wild creatures with personality. They are our friends. And as friends of long standing are first in our affections, I shall begin this winter bird-list of 1918–19 with the Nuthatches.

Our friendship dates from the fall day when a Nuthatch was trapped in the 'shed-chamber'—of course old houses have shed-chambers, they are as much a part of their orthodoxy as the brick oven, the square-paned windows, and the smoke-bushes in the front yard; and I fear me from the feathered things that have fluttered into ours, they can be veritable death-traps. But the Nuthatch was discovered in time and he did some gallant work with his rapier-bill, I remember, before the rescuing fingers unclosed to give him liberty. It

was while he was recovering in the pear tree that he first tasted suet, whereupon, being an old-fashioned gentleman, he brought his wife to share the discovery. After that they came together to the tree.

In late November the Chickadees resolved to make the pear tree their club-house: three of them descended upon the suet and the seed. Darting to the food-tray a black-capped sprite would seize a gray-and-white striped seed and whisk away to the syringa to hack open its contents; flash! and his place upon the tray was taken by another fairy, and flash again! another tiny bunch of feathers would usurp the other mite's table, hustling him away empty-mouthed. I looked out one morning on a feast of brotherly love, as I supposed (though birds may not pin their hearts on their wings any more than we mortals wear ours on our sleeves); there were the three saucy Chickadees busy with seed and suet, and there was the Nuthatch moving head-first down the trunk towards the feeding-box. I regarded my avian Utopia with frank satisfaction. The Nuthatch hurried onto the tray and was examining the seeds with the air of a veteran diner-out, when a bad Chickadee alighted upon the tray and literally swept his lordship off. Sir Nuthatch retired sulkily down the trunk but soon returned to the food-box with crushing loftiness, I thought, but his airs did not affect the self-elected members of the Pear Tree Club! There was a vindictive flash of gray, white, and black fluff, and again it was the Chickadee who remained on the shelf. Thus were the Nuthatches black-balled and ousted from the pear tree by the fascinating strangers, who sang *Chick-a-dee-dee-dee* most ingratiatingly to me as they feasted on their spoils—*chick-a-deeing* so effectively that when the seeds were gone I put out more to keep them at the tree.

Through the whole long winter never another *yank-yank* sounded from the house precincts. But the Chickadees lived there, being coaxed to the window-sill where I could watch their process of eating: my bead-eyed friend would choose a sunflower seed, perch on the box, firmly holding it in his black claws, and then with one hack break open the envelope and let it fall to the ground while he ate the soft seed; later he held between his claws the tiny hemp and rape seeds, cracking the husk and then swallowing the seed. After stuffing himself he would hop down to the snow and take little beakers of it! At first I was not sure which woodland was their home, but one night they told me themselves. They always stayed at the window till dusk: that night I saw them fly from the window to a maple; fluttering to its top, they headed for a wooded hillside across a field. Up in its dim stillness I found them going to bed in the hemlocks, and, launching forth from the maple, there they went every night.

One cold February morning a Hun of the air swooped down upon my Chickadees. He alighted cockily in the syringa, where all seven midgets were eating seed. I think the little birds did not recognize the wolf, for they sang blithely till he cut off one Chickadee from the rest and pursued it with vicious

stabbings of his curved beak. Up above the roofs, up above the tallest elm, the little Chickadee twisted and dodged and shrieked, evading, just evading the Northern Shrike. It was horrible—yet, as next morning I counted seven Chickadees, I think the victim escaped. During the rest of February, when the murderous Hun appeared, a solemn hush would descend on our cheerful orchard where the Chickadees were 'frozen' to the orchard trees. The seven survived the perils of the winter, coming for seed till June. In the mating-time I saw a male feed a female husked sunflower seeds—which she ate, fluttering her wings. But when the June skies were their bluest the Chickadees came back no more and a Song Sparrow stole their hemp and rape seeds from the window-sill.

Of course, the Woodpeckers, Blue Jays, and Partridges were with us always, and at times the Tree Sparrows and Juncos and Snow Buntings drifted by in scattering clouds or the Thistle Birds in cloudlets gleaned the weeds among the stubble. And there were seen—though not on our acres—the Evening Grosbeaks and the alien Starlings. Our irregular visitors came and went. In December the maple trees blossomed forth one morning as pink hollyhocks, and a little boy watching them from the window asked, "What are those birds that have mermaids' tails?" The Pine Grosbeaks blossomed in the maples for two days, eating the keys, and then they flew a mile eastward to continue their out-of-season reaping.

Early March brought some of the Sparrows northward; then, like a wicked old witch, she tried to freeze them and starve them; snow, changing to sleet, and an icy wind were her servants. We awoke one morning to find literally a thousand birds singing and twittering and wheeling over the orchard and fields, seeking food and shelter. We scattered grain and sweepings from the hay barns over the snow, and also rape and hemp seeds. The barnyard, the orchard, the fields and meadows were dotted by the frail little creatures and, as they came about the house, we identified them. There were dozens of little grey and white Redpolls with bright red caps and pale pink suffusing their breasts; so tiny were they, so babyish that my Chickadees seemed clowns. There were Slate-colored Juncos mincing about in the snow, and, mingling with them, were Tree Sparrows and Song Sparrows, and a few very docile English Sparrows. The Tree Sparrows, cocking their tails like Wrens, attempted suet. How bright and smart the Sparrows were in their fine spring feathers and how we admired them until one plump gentleman dropped into the assemblage and dwarfed them by his size and elegance and color! The stranger was a Fox Sparrow and more than one cinnamon-box had gone to powder his feathers!

On March 15 the Red-Wings were swaying in the elms by the river, creaking like arboreal frogs. When I saw them, even though the snow whitened the fields, I made my last entry in my book of winter birds, for I knew that spring had come.

The Migration of North American Birds

SECOND SERIES

XIV. COWBIRDS

Compiled by Harry C. Oberholser, Chiefly from Data in the Biological Survey

COWBIRD

The Cowbird (*Molothrus ater*), well known as a parasite of small birds, is widely dispersed over the United States, southern Canada, and Mexico. It is divided into three geographic races, all of which occur in the United States.

The common **Eastern Cowbird** (*Molothrus ater ater*), breeds in the United States and Canada, north to Nova Scotia, New Brunswick, central Quebec, and southern Ontario; west to Minnesota, Colorado, and New Mexico; south to central Texas, northern Louisiana, Tennessee, and southern Virginia; and east to the Atlantic coast. It winters north to Massachusetts and Michigan, and south to Florida, Alabama, and Michoacan, central Mexico.

The **Sagebrush Cowbird** (*Molothrus ater artemisiæ*) breeds in western North America, north to southern Manitoba, southwestern Mackenzie, and central British Columbia; west to southwestern British Columbia, western Washington, central Oregon, and eastern California; south to south central eastern California, southern Nevada, Utah, Wyoming, and South Dakota; and east to North Dakota and Manitoba. It winters south to Texas, Vera Cruz, and Michoacan, Mexico.

The **Dwarf Cowbird** (*Molothrus ater obscurus*) is resident in Mexico and the southwestern United States, north to southern Louisiana, southern Texas, southwestern New Mexico, southern Arizona, and southern California; and south to Colima, Oaxaca, and Vera Cruz, Mexico.

In the following tables the records of the Sagebrush Cowbird are designated by an asterisk, while all the rest refer to the common Eastern Cowbird.

SPRING MIGRATION

LOCALITY	Number of years' record	Average date of spring arrival	Earliest date of spring arrival
French Creek, W. Va.	5	March 25	March 8, 1890
Washington, D. C.	17	March 19	Rare, winter
Cambridge, Md.	6	March 24	March 13, 1915
Philadelphia, Pa.	17	March 24	March 12, 1890
Beaver, Pa.	9	March 22	March 17, 1905
Morristown, N. J.	17	March 22	Feb. 9, 1887
Buffalo, N. Y.	10	April 3	March 20, 1881
Shelter Island, N. Y.	13	March 25	Rare, winter
Jewett City, Conn.	24	March 28	March 7, 1894
Providence, R. I.	8	March 28	March 17, 1907
Boston, Mass.	28	March 30	Rare, winter
St. Johnsbury, Vt.	23	April 9	March 20, 1903
Charleston, N. H.	5	April 13	March 30, 1902
Phillips, Maine	12	April 15	April 7, 1909

SPRING MIGRATION, continued

LOCALITY	Number of years' record	Average date of spring arrival	Earliest date of spring arrival
Montreal, Quebec	12	April 11	March 20, 1910
Delight, Ark.	3	March 21	March 15, 1913
St. Louis, Mo.	8	March 10	Feb. 27, 1911
Chicago, Ill.	29	March 28	March 9, 1911
Richmond, Ind.	11	March 7	Rare, winter
Oberlin, Ohio	22	March 13	Feb. 5, 1909
Ann Arbor, Mich.	28	March 25	Rare, winter
London, Ontario	13	March 24	March 14, 1911
Ottawa, Ontario	32	April 6	March 21, 1907
Keokuk, Iowa	15	April 1	Rare, winter
Madison, Wis.	21	April 2	March 13, 1893
Minneapolis, Minn.	16	April 20	March 30, 1894
Kerrville, Texas	14	March 9	Feb. 15, 1911
Wichita, Kans.	6	March 12	Feb. 12, 1915
Onaga, Kans.	25	March 23	Rare, winter
Badger, Neb.	4	April 6	March 22, 1900
Denver, Colo.	3	May 3	April 17, 1908
*Vermilion, S. Dak.	6	April 5	March 12, 1889
*Argusville, N. Dak.	13	May 3	April 6, 1883
*Aweme, Manitoba	18	May 2	April 23, 1908
*Qu'Appelle, Sask.	12	May 7	April 6, 1915
*Fort Simpson, Mackenzie	2	May 20	May 14, 1904
*Rupert, Idaho	3	May 11	May 8, 1912
*Terry, Mont.	4	May 6	May 3, 1896
*Flagstaff, Alta.	9	April 27	April 10, 1912
*Gilroy, Calif.	4	March 4	Feb. 20, 1912
*Okanagan Landing, B. C.	9	May 16	May 10, 1910

SPRING MIGRATION

LOCALITY	Number of years' record	Average date of last one observed	Latest date of last one observed
Raleigh, N. C.	9	April 4	April 29, 1890

FALL MIGRATION

LOCALITY	Number of years' record	Average date of last one observed	Latest date of last one observed
French Creek, W. Va.	4	November 4	November 10. 1892
Washington, D. C.	7	November 5	Rare, winter
Philadelphia, Pa.	6	October 25	November 14, 1885
Beaver, Pa.	5	October 2	October 17, 1910
Renovo, Pa.	5	October 15	November 16, 1894
Morristown, N. J.	11	October 10	November 5, 1907
Geneva, N. Y.	2	October 22	October 23, 1914
Hartford, Conn.	7	September 27	October 15, 1888
Boston, Mass.	6	October 30	Rare, winter
Portland, Maine	2	October 11	October 16, 1915
Phillips, Maine	2	October 2	October 13, 1905
Montreal, Quebec	4	October 7	October 23, 1910
Athens, Tenn.	4	October 25	November 21, 1902
Concordia, Mo.	7	October 23	November 15, 1914

FALL MIGRATION, continued

LOCALITY	Number of years' record	Average date of last one observed	Latest date of last one observed
Rantoul, Ill.	5	October 21	October 31, 1913
Chicago, Ill.	6	October 14	December 9, 1916
Richmond, Ind.	5	November 5	Rare, winter
Waterloo, Ind.	8	October 31	November 21, 1905
Oberlin, Ohio	10	October 6	November 7, 1903
Wauseon, Ohio	11	October 24	November 16, 1888
Grand Rapids, Mich.	3	October 12	October 22, 1895
Ann Arbor, Mich.	2	October 23	Rare, winter
London, Ontario	3	October 10	October 29, 1902
Ottawa, Ontario	9	October 5	November 1, 1887
Keokuk, Iowa	5	October 14	Rare, winter
Grinnell, Iowa	5	November 9	November 17, 1886
Onaga, Kans.	15	October 27	Rare, winter
Badger, Neb.	2	October 29	November 5, 1901
Vermilion, S. Dak.	1		December 26, 1883
Aweme, Manitoba	7	September 18	October 2, 1902
Qu'Appelle, Sask.	1		September 14, 1907
Flagstaff, Alta.	1		September 25, 1906

FALL MIGRATION

LOCALITY	Number of years' record	Average date of fall arrival	Earliest date of fall arrival
Raleigh, N. C.	9	October 19	September 4, 1890

BRONZED COWBIRD

The **Bronzed Cowbird** (*Tangavius æneus*) is a tropical bird of Central America and Mexico, of which there are now recognized three subspecies. One of these, the **Lesser Bronzed Cowbird** (*Tangavius æneus assimilis*), is found only in southwestern Mexico from Oaxaca to Jalisco. Both the others occur in the United States, but only along the southwestern border. The distribution of these is as follows:

The **Bronzed Cowbird** (*Tangavius æneus æneus*) ranges in northwestern Mexico south to Tepic and north to Sonora. It has been taken also in Arizona, at Tucson on April 11 and May 21, 1909, and at Sacaton on May 28.

The **Red-Eyed Cowbird** (*Tangavius æneus involucratus*) occurs north to central southern Texas and south through eastern Mexico and Central America to Panama. It is resident in the valley of the Lower Rio Grande, but is apparently only a summer visitor farther north in Texas.

Bird-Lore's Twenty-first Christmas Bird Census

BIRD-LORE'S Annual Bird Census will be taken as usual on Christmas Day, or as near that date as circumstances will permit; *in no case should it be earlier than December 24 or later than the 27th* — in the Rocky Mountains and westward, December 20 to 25. Without wishing to appear ungrateful to those contributors who have assisted in making the Census so remarkably successful, lack of space compels us to ask each census taker to send only *one* census. Furthermore, much as we should like to print all the records sent, the number received has grown so large that we shall have to exclude those that do not appear to give a fair representation of the winter bird-life of the locality in which they were made. Lists of the comparatively few species that come to feeding-stations and those seen on walks of but an hour or two are usually very far from representative. A census-walk should last *four hours at the very least, and an all-day one is far preferable*, as one can then cover more of the different types of country in his vicinity, and thus secure a list more indicative of the birds present. Each report must cover *one day only*, that all the censuses may be comparable.

Bird clubs taking part are requested to compile the various lists obtained by their members and send the result as one census, with a statement of the number of separate ones it embraces. It should be signed by all observers who have contributed to it. When two or more names are signed to a report, it should be stated whether the workers hunted together or separately. Only censuses that cover areas that are contiguous and with a total diameter not exceeding 15 miles should be combined into one census.

Each unusual record should be accompanied by a brief statement as to the identification. When such a record occurs in the combined list of parties that hunted separately, the names of those responsible for the record should be given. Reference to the February numbers of BIRD-LORE, 1901–20, will acquaint one with the nature of the report that we desire, but to those to whom none of these issues is available, we may explain that such reports should be headed by the locality, *date*, hour of starting and of returning, a brief statement of the character of the weather, whether the ground be bare or snow-covered, the direction and force of the wind, the temperature and the distance or area covered. Then should be given, *in the order of the A. O. U. 'Check-List'* (which is followed by most standard bird-books), a list of the species noted, with, as exactly as practicable, the number of *individuals* of each species recorded. A record should read, therefore, somewhat as follows:

Yonkers, N. Y. (to Bronxville and Tuckahoe and back).—Dec. 25; 8 A.M. to 4.30 P.M. Clear; 5 in. of snow; wind west, light; temp. 38° at start, 42° at return. Eleven miles on foot. Observers together. Herring Gull, 75; Bob-white, 12 (one covey); (Sharp-shinned?) Hawk, 1; . . . Ruby-crowned Kinglet, 1. Total, 27 species, about 470 individuals. The Ruby-crown was studied with 8x glasses at 20 ft.; eye-ring, absence of head-stripes and other points noted.—JAMES GATES and JOHN RAND.

These records will be published in the February issue of BIRD-LORE, and it is *particularly requested* that they be sent to the Editor (at the *American Museum of Natural History, New York City*) by the *first possible mail. It will save the Editor much clerical labor if the model here given and the order of the A. O. U. 'Check-List' be closely followed.*—J. T. N.

Notes on the Plumage of North American Birds

FIFTY-EIGHTH PAPER

By FRANK M. CHAPMAN

(See Frontispiece)

Cowbird (*Molothrus ater*. Figs. 1–3). A Cowbird in nestling plumage may be cared for by any one of the ninety-odd species on which female Cowbirds have imposed their maternal duties, but one may be sure that it will never be under the charge of a Cowbird. Its identity, therefore, will not be revealed by its apparent parent and a drawing (Fig. 3) of it is therefore presented in our plate of its species. This young bird, it should be added, is making its characteristic appeal to the bird world at large rather than to the adult Cowbirds with which the exigencies of illustration associate it.

The post-juvenal, or first fall molt, begins, in the vicinity of New York City, in late August or early September, and by a complete change of plumage the young bird now acquires its first winter dress which is essentially like that of the adult. During the molt the young male presents a strikingly mottled appearance as the new incoming black feathers patch its grayish nestling dress. There is no spring molt and the very slight difference between summer and winter plumage is due to wear and fading.

Bronzed Cowbird (*Tangavius æneus*. Figs, 4, 5). The nestling plumage of the Bronzed or Red-eyed Cowbird is much darker than that of our northern species; in fact, resembles in color our figure (No. 2) of the adult female of that species.

Unlike *Molothrus ater*, the young male does not acquire the plumage of the adult at the first fall, or post-juvenal, molt, but at this time passes into a plumage like that of the adult female. The species further differs from *M. ater* in evidently undergoing a partial spring molt by which the anterior parts of the body acquire the bronzy plumage (including the neck 'ruff') of the adult. The fully adult plumage is therefore not gained until the first post-nuptial (second fall) molt.

Notes from Field and Study

Snow-Bathing

Everyone who has observed the birds in winter knows that they use snow as a substitute for drinking-water, but it may be as new to other readers of BIRD-LORE as it was to me, to learn that they use snow as a substitute for bathing-water also. This morning a female Downy Woodpecker that I was watching flew to a horizontal branch and proceeded vigorously to bathe in the loose snow lying there. Like a Robin in a puddle, Mrs. Downy ducked her head, ruffled her feathers, and fluttered her wings, throwing some of the snow over her back and scattering the rest to the winds. As all the snow fell off one part of the branch, she moved along to another, until she had cleared a place about two feet long. Two forks held more snow than the straight limb, and apparently Mrs. Downy enjoyed herself immensely when she came to them. At first, I thought that she was searching for food under the snow, but though I watched her closely during the two or three minutes that she remained on that branch, I did not see her peck at it once.—R. OWEN MERRIMAN, *Hamilton, Canada.*

Bird-Notes from Dutchess County, N. Y.

Some Pine Grosbeaks were first seen by the writer in this vicinity on December 13, 1918. There were a dozen of them in some maples and in a white-ash tree, the seeds of which they seemed very fond of. The birds were mostly in gray and white plumage, a few showing rosy feathers, and one was quite resplendent in bright rosy red. Some of these birds, of the same flock it would seem, were around about every day for three weeks, and on January 31 the Grosbeaks were seen for the last time in our neighborhood. These Pine Grosbeaks were a decided novelty here, and I watched them whenever possible. Their uncommon tameness was demonstrated in an amusing manner when three of these birds alighted in a choice little cherry tree and began nipping off buds. One of our household, not liking this procedure, walked toward the tree and when about 6 feet away took off his cap and waved it at them. This the Grosbeaks did not notice in the least, nor did a clapping of hands serve to startle them. He then took hold of the branch whereon the birds were feeding and shook it vigorously. Then the Grosbeaks flew away. We regretted not having the camera there on that occasion.

I admired the musical and rather plaintive song of these Grosbeaks. Their notes seemed quite similar to those of the Evening Grosbeak. The latter I have on record as first appearing at our station on December 29, 1916, and they, too, caused a sensation here by their handsome plumage and large size. I did not see more than three at a time, but they were around for nearly a month. The first one identified appeared on an apple tree close by my window, and as he bent to peck at a frozen apple, the rich yellow and black of his head was glorious to behold.

The absence of the Brown Thrasher from our neighborhood during the spring and summer of 1916, and again this bird's complete disappearance during 1918, has been a puzzle that we cannot solve. The Thrashers were never abundant here, but we have always been favored with the songs of one or two at least every spring and early summer.

Purple Martins disappeared from this town of Stanford about forty-five years ago, so the old residents say. The increasing scarcity of birds is quite noticeable and is not a very cheering prospect.

The little Screech Owls are rather plentiful here, as we are near a woods, and we usually see a brood of young Owls around the house-yard in summer. An apple tree quite near the house usually shelters a Megascops each winter, and we wonder if these Screech Owls do persecute the smaller birds or rob their nests, thus making our native song-birds scarcer here. Can any-

one inform us?—MARY HYATT, *Stanfordville, N. Y.*

A Centenarian Bird-Lover

The enclosed verses were written by an old lady of 100 years, Mrs. Mary A. Hunt, who has since died at 106 years of age.

Perhaps they will interest your readers. —MRS. M. R. MERRIMAN, *Beloit, Wis.*

THE SNOW-BIRDS

Chirp! Chirp! Chirp!
Twitter! Twitter! Twitter!
What is all this fuss about?
What can be the matter?
See, the snow is falling fast,
Hear the north wind's chilling blast!
See the tall trees bending low
'Neath their feathery weight of snow.
Still there comes that clitter-clatter
What on earth can be the matter?

Ah, I see, it is the snow-birds
Hopping, clinging in the breeze.
Are they made of India rubber
That their little legs don't freeze?
O, you silly little snow-birds,
Why not do as others do,
Fly away to lands more sunny
Where the bees are making honey,
Where you'll find the nicest berries,
Pearly rice and ripe, red cherries?
Ah, I know without more words,
'Tis because you are snow-birds!

—MARY A. HUNT.

Winter Notes from Andover, N. J.

On December 8, 1919, we had in our yard four Pine Grosbeaks, one of which was in the full rosy plumage of the adult male. They seemed to be feeding on the seeds of a spruce tree near the house, sometimes flying to the ground within a few feet of our windows. Although the old spruce offered them an abundance of cones, they remained only two days. A flock of eleven Evening Grosbeaks have been daily visitors to the large maple trees in our driveway for the past month, but not one mature male is among them. Their large, blunt bills take heavy toll of the maple seeds, then the whole flock fly to the ground close to our windows, seeming quite willing to exhibit themselves to our admiring friends who come purposely to see them, for, being quite rare, they are attracting much notice.

To add further interest to our bird-study this year, on March 2, we saw at Slaters' Lake, nearby, a Whistling Swan in full adult plumage, 35 American Mergansers, and about 20 Herring Gulls, the last mentioned rarely coming to us as we are about fifty miles from the seacoast.—F. BLANCHE HILL, *Sec. Sussex County Nature Study Club, Andover, N. J.*

Some Florida Records

So early do many species of birds leave South or Central America and start out upon their return flight to northern nesting grounds, that at first sight it seems proper to include them among the winter residents of Florida.

Such was my thought when, on February 6, 1920, I observed eight purple Martins flying about a large Martin-house which had been closed in the fall to keep out the undesirable Sparrow, and had not yet been opened. This was in the town of Sanford, Fla.

The Painted Bunting, which has recently been reported through BIRD-LORE as wintering in Florida, I found at Palmetto, near the north shore of the Manatee River, on January 15, and also at Stuart, where a male and two females were seen on March 10.

The Ruby-throated Hummingbird was noted as early as January 20 at Lakeland, yet we are told that this little jewel of the bird kingdom winters south of the United States.

Other records of possible interest are: Lark Sparrow (*Chondestes grammacus*), a single individual at Arcadia, December 5, 1919; American Pipit, large flocks on celery and cabbage fields at Sanford, January 31 to February 20; Ovenbird, Arcadia, December 24, 1919. Surf Scoter (*Oidemia perspicillata*), a single specimen male, on the

St. Lucie River near junction with the Indian River. This bird seemed to endeavor to keep apart from the numerous Scaup Ducks round about it.—LESTER W. SMITH, *Meriden, Conn.*

The Screech Owl as a Sparrow Trap

The ability of the Screech Owl to serve as a Sparrow-trap was demonstrated by an Owl which sought winter quarters in the hay-mow of our barn during the winter of 1919–20.

It was at Thanksgiving time, or thereabouts, that I first saw the Screech Owl in the hay-mow. We had had a severe snowstorm, followed by intensely cold weather, and the Owl had doubtless decided that the barn would make a good place of refuge from the storm.

I saw the Owl in the mow many times after the occasion of our first meeting, for it was usually present about dusk, when I went to the mow to put down the night supply of hay. The little fellow was always on the lookout and saw me as soon as I reached the mow. After a thorough look at me, which necessitated twisting its head at various angles, it usually became alarmed and commenced flying from one end of the barn to the other, but often stopping at one end to give me another long look. Very often it became so excited that it flew out of one of the windows, into the night, probably to return later. When flying I could hardly believe that such large wings belonged to as small a bird as the Screech Owl seemed when perched on a girder of the barn. When sitting, the Screech Owl looks about as large as one's fist, but in the air it takes on much larger proportions.

Before the advent of the Screech Owl the barn was always filled with English Sparrows; their noisy chatter filled the place from morning till night. Soon after we learned that the Screech Owl was living with us, we noticed a decided decrease in the number of English Sparrows around the farm buildings. The Sparrows refused to go near the barn and dug tunnels in a nearby straw-pile where they stayed a good share of the time. Some of these tunnels were filled with feathers. A headless Sparrow was found lying on a girder in the hay-mow. Such things had never happened before and there could be but one reason for their occurrence—the Screech Owl was hunting.

At the beginning of the winter the flock of English Sparrows on our farm numbered about two hundred and in less than two months it had been reduced to less than twenty birds. Small wonder that the Sparrows became horror-stricken and did not frequent the barn as usual! The Owl in the dark of night could search out the Sparrow's favorite roosting-places, pluck a Sparrow from its perch, and fly away before its presence was noted, to return for another when the first hapless victim had been disposed of.

This Owl rendered us great service during its stay with us. English Sparrows are a great nuisance on the farm for they are continually building bulky nests in hay racks, in the wheels of rolling doors, and other places where they must be cleared out often, to say nothing of their habit of appropriating houses intended for other birds.

After a time the Owl became accustomed to my being in the hay-mow and did not fly out.

During January (1920) the Screech Owl's visits to the hay-mow became less frequent and finally ceased altogether.

Near the farm buildings is a grove of tamaracks and willows where a family of Screech Owls is reared nearly every summer. I presume this particular owl was a member of one of these broods.

Save for this one species, Owls are very rare in this part of the country, but it is no wonder, for the average farmer is ignorant of the value of our Owls and thinks he is doing the community a good turn when he shoots one. The writer has seen only two Owls, other than the Screech Owl, in the last three years. One was a Snowy Owl (November 22, 1918) and the other was a Barred Owl (September 27, 1919). The Barred Owl was shot by a hunter shortly after. Owing to their nocturnal habits, probably a good many

escape death that otherwise would also be sacrificed.—FRED. J. PIERCE, *Winthrop, Iowa.*

A Colony of Three-Toed Woodpeckers

During most of September and October, 1917, I cruised exhaustively the area bounded by Hall's stream on the west, the international boundary on the north, the Maine state-line on the east, and the parallel of 45 degrees north latitude on the south. This tract has an area of, roughly, 344 square miles, and comprises the northern part of Coos County, N. H.

For many years this region has been the seat of lumbering operations, which thus far have included only white pine, white spruce, and fir balsam. Barring scattered spruces and firs of merchantable size, there were at that time comparatively few remaining conifers sufficiently large or abundant to tempt the lumberman or pulp-wood man. The whole tract is now covered with a splendid growth of virgin deciduous trees, mainly rock and red maple, yellow birch, and white and brown ash, with lesser amounts of black cherry and canoe birch, forming parts of the water-sheds of the Connecticut and Androscoggin rivers. Upon the swampy borders of the lakes, a thick mantle of young balsam occurs, with a fringe of small spruces along its outer edge.

At the time of my visit, however, there still remained on the middle branch of Dead Diamond River, a tributary of the Androscoggin, a single small area of virgin forest containing abundant white spruces and balsams, the former splendid, healthy trees of large size, and the latter also large but having many trees diseased or decayed at the heart.

During the first two weeks, every day spent in the forest, I had kept a sharp lookout, but a fruitless one, for the American and Arctic Three-toed Woodpeckers (*Picoides americanus americanus* and *P. arcticus*). It was not, however, till I had just crossed the divide between the Connecticut and Androscoggin rivers into the water-shed of the latter stream that I encountered my first pair of the latter species, hammering away near the tops of tall spruces. Lower down, close to Mt. Pisgah, a single adult male American Three-toed Woodpecker was seen, a fearless bird feeding low (within 20 feet of the ground) and flying restlessly from tree to tree, and occasionally calling quietly. This call was a single one, low-pitched and soft, apparently uttered as the birds wandered about feeding, to inform others nearby of its presence, in the same manner that Red-bellied Nuthatches call at intervals, as a band ranges through its feeding-grounds in winter.

Still lower down, in the area of diseased balsams, a pleasant surprise awaited me, for here Three-toed Woodpeckers of both species, sexes, and all recognizable ages, were distinctly common—a colony, so to speak, temporarily concentrated owing to two factors: (1) The nearly complete destruction in this region of the former virgin forest of large conifers on which and in which they fed and nested; and (2) the presence of abundant food at this locality in the diseased balsam trees. The birds were industriously feeding and were strangely silent. Both species occurred together and they seemed little disturbed by my presence, or the fact that a gang of lumber-jacks was noisily working, often only one or two hundred feet away. No doubt the birds had gradually become accustomed to the presence of the men. My notes do not refer to the relative frequency of each species, but the impression was not gained that one species was less frequent than the other, though this might well have been the case. My observations, which were made merely as an incident in connection with my work, were confined to a very small area near a logging-camp. Here some thirty Three-toed Woodpeckers were seen. Others were encountered a little further from camp, and it is probable had the infected area been systematically canvassed, many more birds would have been found.

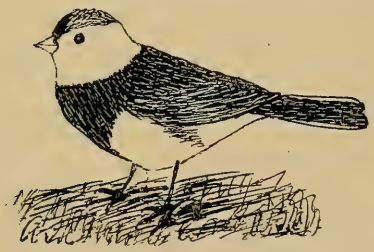
As all these trees were expected to be cut during 1917 and 1918, no doubt these birds today can find no virgin forest rem-

nant of like area and character within their breeding-range in this section of the state —grand spruces and firs which only yesterday were common throughout Coos County.

An identical cause has been recorded as producing a similar result. Bendire, in 'Life Histories of North American Birds,' quoting from notes of Dr. C. Hart Merriam, states that, "The water of Seventh Lake, Fulton Chain" in the Adirondacks, had been raised by a dam, and a considerable area of balsam, spruce, and tamarack trees was killed thereby. Both species of Three-toed Woodpeckers were "tolerably common here in May and June, 1883, and nests of each species were found." This very local nesting colony was maintained for several years, and it was of course attributable topeculiarly favorable conditions both for nesting and for feeding, and had the New Hampshire area been thoroughly studied, it would probably have been found that the Woodpeckers nested here also.—CHARLES L. WHITTLE, *Boston, Mass.*

A Junco with Strange Markings

I have become interested in a Junco that has been seen about my house this spring and I am sending this description and



AN ALBINISTIC JUNCO

drawing of it in the hope that it may interest others and possibly lead to information as to its whereabouts at other times than the five days it was here this spring, between April 27 and May 2, 1920.

It was very conspicuous in a small flock of other Juncos because of the pure white collar that extended around its neck and the lower part of its head. On its forehead was a very dark, almost black patch while the crown was very light brownish gray, somewhat mottled. The cheeks and sides of the head, as well as the nape and whole throat and neck, were pure white. The black eye stood out very prominently. The breast, back, wings, and tail were the usual slate-gray of the Junco, while the underparts and outer tail-feathers were white, the latter more conspicuous than in others of its kind.

It associated with other Juncos and had the same call-notes and song. It was fairly tame and I was able to approach close enough to see its strange markings distinctly, as well as study it from a window while it was feeding on the lawn close by. On the first three days it was seen only in the early morning, on the fourth day at noon, and the last day only in the evening.

When seen facing one it presented a very curious aspect, for the darker head was completely surrounded by the white neck, making it appear as though the bird had a white ruff about its neck.—WM. J. CARTWRIGHT, *Williamstown, Mass.*

Cedar Waxwings at Hollywood, Calif.

On February 6, 1919, while sitting near a rear window on the second floor of my home, I turned, as my ear caught the whir of wings, to see the air full of birds, wheeling and whirling until, as at a signal, they suddenly lighted on the electric and telephone wires strung across the yards. One of the high posts formed an apex from which diverged three wires in four directions. On this post and wires the birds snuggled, sitting very erect, with raised, pointed crest, forming an enormous brown Greek cross. They sat still for a long time, crooning and caressing; and there was no mistaking a large migration of Cedar Waxwings. They do not visit us every year, but are probably finding good 'eats' as they are still with us (February 14), and I never saw so many together—a conservative estimate would give 500 birds. After a luxurious rest different squads would rise, whirl and then drop on the roof of the garage where water was standing from the recent rains.

Another detail would settle on my neighbor's roof and drink from the eaves. They were very thirsty and a long time was consumed in watering the entire flock. After each flight they would return to the wires like well-trained soldiers. Several times an aggressive Mockingbird that patrols this area drove off a whole squad but they felt safe and protected when on the line with the battalion. The finest maneuver was when perhaps 200 of these beautiful birds circled round and round over the balcony on which I stood, then with a swish, lighted on the lemon tree in front of me, on the climbing rose at my side and even on the rail of my porch! I was bewildered with ecstasy for never had I beheld them so close—perhaps 6 feet—and they seemed unafraid. They were now feasting on the insects which infest the trees and bushes and perhaps tasting some of the young and tender buds. They even went down to the ground and drank from a tiny goldfish pond. Their plumage was the most brilliant—their very gayest gowns—the soft blended pinkish fawn of the body with band of bright lemon-yellow across end of the tail. Over their eyes they wore their black masks outlined in white, and many of them sported the red-tipped wings. A most fascinating and interesting study of one of our most beautiful birds.—Mrs. Robert Fargo, *Los Angeles, Calif.*

Chickadees and Bacon

This winter, along with suet and seeds put out to attract the winter birds, a piece of bacon rind was added to the menu for an experiment. After the Chickadees had once tasted this delicious bit, they gave it preference to all the other kinds of food. In fact, it is only rarely that they touch the suet or seeds now. So we fixed bacon stations on twigs at four of the windows and the Chickadees are there nearly every day, making the rounds. Instead of tying the whole piece of bacon closely to the twig, about 1½ inches at the top is left hanging out free. The cold weather keeps this stiffened out at an angle and is a favorite perch while feeding. Here they can perform their acrobatic stunts, as on a twig.—Alice A. Noyes, *Haverhill, Mass.*

Feeding the Chickadees

A delightful country winter sport is the feeding and taming of birds. The saucy, friendly little Chickadee and the White-breasted Nuthatch were found to be the easiest to tame in the part of Connecticut where I have lived. For a number of years, suet was tied to the trees near the dining-room windows and crumbs scattered on the ground for the feathered guests. Hairy and Downy Woodpeckers, Chickadees, Nuthatches, and the bold, big, beautiful Blue Jays were busy all day at the suet. The crumbs were appreciated by the Juncos, Tree Sparrows, and an occasional Robin, and of course the Blue Jays, too, for they never miss anything. They are so greedy, and so disagreeable in driving away the smaller birds that this rather offsets their beauty.

After the birds had been fed this way for several years, I decided to coax them still nearer the windows so that they could be better enjoyed. A dead cedar tree was secured and its base sunk into the lawn a few feet from the house. The top was cut off, leaving it 7 to 8 feet above the ground, and about a foot of each branch was left to make good places for the birds to perch. Several pieces of suet were tied to the tree so that a number of guests could be accommodated at the same time.

When rose-hips and bittersweet were hung on the tree, a flock of Bluebirds quickly found them. It was a lovely sight—the brilliant blue birds and the red and orange berries against a background of snow. It is a mistaken idea, at least in Connecticut, that Bluebirds come with the spring, for they are with us all winter, though usually only near the woods.

In the middle of summer the bare old cedar is completely covered with morning-glories. It is not to be discovered except by the Downy Woodpeckers who, unlike the other birds, keep hungrily at the suet all summer.

After reading about teaching birds to

eat from one's hand, I decided to try. I put some crushed peanuts on my hand, raised the window just enough to permit the hand to go through, and kept my face well out of sight of the birds. Of course, the friendly Chickadees were the first to discover that food was being offered to them in a different way. They talked a lot about it from their cedar, and finally decided to fly a little nearer to investigate. They wanted the nuts very much, but at first didn't quite dare to take them. After patient waiting by the owner of the hand, one brave Chickadee flew quickly down and, snatching a piece of nut carried it to a nearby tree. After that it was easy and they soon became accustomed to seeing people standing in the window when they came for the nuts. Then I decided to try feeding them outdoors, and it was not long before they were flying all about my head, impatiently waiting their turns at the food. They became so friendly that they expected nuts of everyone who entered the yard. The trades-people coming to the kitchen door were puzzled to see the little birds perching on the clothes-line near the door and saying, *dee-dee-dee* in a most expectant manner, and then flying close to them.

The Chickadees discovered that I went out at the same hour each morning and returned in a short time—whether they knew I went to the village to get the mail and do the marketing, I can't say. At any rate, the whole flock waited at the foot of the hill and demanded nuts on my return. So nuts were always carried in my pockets. As soon as they saw me coming they would begin their cheery little *chickadee-dee-dee*, and then swoop down for the nuts that were ready on an outstretched palm. The Chickadees were so individual. One or two would alight confidently on my hand without hesitation, while another had to do quite a little fussing and raising of feathers on his saucy black cap before he would decide to take a nut. One bird would stay on my hand and eat a number of pieces before flying away with one, and then there was the greedy bird who always took two pieces with him—all his short little bill could hold.

The Nuthatches were not so easy to tame, but finally they could not resist the food. It was such fun to see the queer wooden-looking birds, with their clean-cut markings, short tails, and long black bills. They had to do a great amount of talking and running up and down the trunk of the cedar tree, and looking first one way and the other, before deciding to brave the hand held out for them. When they did come they ate a great deal but never kept still on my hand. Their long claws felt so funny dancing up and down on my fingers. After a while they were as tame as the Chickadees—especially the female Nuthatch with her slate-colored cap. The male has a black cap more like that of the Chickadees.

One day when standing outdoors with nuts all ready, a Chickadee and Nuthatch both spied them about the same time. The Chickadee got there first and began to eat. That didn't suit the Nuthatch at all, so he lighted on my shoulder and ran the whole length of my arm and chased off the disgusted Chickadee, who went sputtering away into a tree.

When spring came and it was time to build nests, the birds would no longer eat from my hands, though they still came for the suet. Later the Chickadees disappeared altogether for a time, but returned when their young were able to fly. Then they were very busy and important, feeding suet to the little birds and ignored me completely. It looked as if they had forgotten that we had been such good friends the winter before, but I knew that they would return with the cold weather, ready for the nuts I had to offer.—ELIZABETH S. SMITH, *New York City.*

Eagles and Other Birds Near Troy, N. Y.

A sign at the Tomhannock reservoir reads "Albany 24 miles." This source of part of Troy's water-supply is reached by bus from that city. On Labor Day, 1920, the water was low, leaving a splendid beach of gravel and large stones for easy walking. From the public road we saw

birds on the shore, and the first one that came under the binoculars was a Sandpiper with a slightly curved bill, pronounced a Red-backed Sandpiper by Mr. E. E. Caduc, my companion, a bird observer of long experience.

Next we saw two Least Sandpipers and five Killdeers. On a little point were six or eight Sanderlings and a Semipalmated Plover. The Sanderling were beauties. Some were well advanced in fall plumage, being quite gray, and the spotted back showing beautifully. Before we came back to the road we had seen three or four Solitary Sandpipers and a Green Heron.

Then we started to go across a bridge or culvert to get down the other side of the reservoir. To the east the water covers a space of a half-mile-square lake; to the west it runs for five miles.

We were nearly across the culvert when we united in a shout of "There he is!" A Bald Eagle was soaring a hundred feet up. He was in full plumage, majestic and wonderful, his white head and white tail showing plainly in the clear sunlight. Far down the lake we could see another Eagle.

We went down the beach on the north side for probably a mile and a half, every little while coming upon one or two Sanderlings or one or two Solitary Sandpipers. On this north side, but east of the bridge, were lots of Sanderlings and four Ring-necked Plovers.

Goldfinches were numerous, as were Redwings, Cedarbirds, Maryland Yellow-throats, and Savannah Sparrows. Other birds were a cock Pheasant and a Kingfisher. Quantities of Barn and Cliff Swallows were in the air and Great Blue and Black-crowned Night Herons circled around.

As we were eating our lunch we saw a Marsh Hawk and an Eagle, and later we saw two Eagles soaring high; looking the other way, we saw two more, low, so low that one of them picked something out of the water, and then they flew into a pine tree. In the same direction we saw two more Eagles, at least six separate birds. Headed away from the lake, we took a sharp turn in the road, and out of a tree three rods away flew another Eagle. We saw one or two Eagles half a dozen times after that. Consideration led us to believe we had seen nine Eagles altogether.

Resting at the farmhouse, we heard a note that Mr. Caduc said was that of a Yellow-leg and in the air was a flock of 13 Yellow-legs, then a flock of 7, and then out of the sky came at least 75.—Clarence Houghton, *Albany, N. Y.*

THE SEASON

XXII. August 15 to October 15, 1920

Boston Region.—In the region immediately about Boston the past summer was a very dry one—there were no rainstorms, and most of the thunder showers passed by to the north or south of us. Since the heavy rain of September 10, we have enjoyed a month of ideal autumn weather.

The migration of small birds during September and early October was remarkably regular. Usually at this season heavy flights, bringing a multitude of birds, alternate with days when there is a dearth of bird-life, but this year the stream of migrants was almost uninterrupted. The northern Warblers appeared early, the Tennessee well in the van, their migration hastened, doubtless, by early frosts in the North.

In addition to the rapidly moving hosts of Warblers and Sparrows which the close of summer and the autumn bring to interest the bird-observers in this part of the transitional zone, there comes a change in the behavior of some of our common breeding birds. The Bluebirds which we have scarcely seen or heard since they were preparing for their second brood, become a prominent feature of a walk on an autumn morning. They fly overhead, southward, in loose flocks, giving their

soft, 'lone note of sorrow;' they pause to play about the apple trees in an old orchard; they sometimes sing nearly as freely as in spring. The Robins, after a long absence from our lawns (for they find no worms in the parched ground), return in September for a brief hunting-season in fresh plumage, the breast-feathers hoary with frosty tips. Families of Chipping Sparrows join together till sometimes a flock of fifty birds assembles on the grass where, in spite of the lawn-mower, the plants have seeded. These flocks are to be seen daily until October 25, or thereabouts, when, of a sudden, they are gone.—WINSOR M. TYLER, M.D., *Lexington, Mass.*

NEW YORK REGION.—The autumn has come on almost imperceptibly. Many trees still stand full-leafed and green in the middle of October. The first few days in September there was an influx of a variety of transient birds, among them the Cape May Warbler (Garden City, September 3). But throughout most of September birds were scarce. There were many beautiful days when summer residents and earlier transients had, apparently, moved on without others arriving to take their places. The end of the month things became a little more active. There seems to have been an inconsiderable flight wherein the Parula Warbler was represented, about September 28 or 29, and a movement of the Swamp Sparrow the first few days of October. In autumn, on Long Island, migrant Swamp Sparrows (noisy and quite conspicuous) frequently appear in dry upland localities.

The night of October 5 brought a wave of migration. W. Granger, who chanced to be out at about midnight in the Bronx, heard the calls of many birds flying over. Next morning the country was more lively than it had been for weeks. The White-throated Sparrow and Junco came at this time and other species were represented. Myrtle Warblers and Flickers were in greatest numbers. The majority of them moved on almost immediately, and migration declined again through the next few days.

On the morning of September 19, a cool clear-off with a strong northerly wind was accompanied by a marked flight of Hawks east to west along the south shore of Long Island. The Marsh Hawk, Sharp-shinned Hawk, Pigeon Hawk, and Sparrow Hawk were represented. The Sparrow Hawks were flying over the dunes; the Sharp-shinned Hawks mostly over the land north of the bays. F. F. Houghton writes that there have been Fish Hawks at Botanic Garden, Bronx Park, feeding on goldfish, a not uncommon habit when they first reach us in the spring, but the first instance that has come to hand of it in autumn. As usual, Fish Hawks were numerous on Long Island shores during the autumn. On October 12, several were noticed at Long Beach flying steadily east to west, fairly high, singly and in twos, an indication that the species was moving farther to the south at this date. Up the Hudson, in Dutchess County, M. S. Crosby reports a flock of about 64 Red-tailed Hawks on September 23.

At Mastic, Long Island, flights of Wilson's Snipe were noted September 4 and on September 19. In the morning of the latter date a flock of about seven birds circling over a point of bay marsh (where they presently alighted on some dead stubble) bunched in a close-ranked flock like Dowitchers or Yellow-legs, unusual for this species.

Though as a whole the southward movement of land birds was rather delayed, we find inconsistencies, as is so often the case. Exceptionally early arrivals, reported by M. S. Crosby of Rhinebeck, are Olive-sided Flycatcher, August 8, (Poughkeepsie); Ruby-crowned Kinglet, September 5 (Poughkeepsie); and Rusty Blackbird, September 23.—J. T. NICHOLS, *New York City.*

PHILADELPHIA REGION.—Almost daily rains throughout August and a corresponding number of fine clear days through the month of September were the pronounced features of the weather conditions in this vicinity. Up to this time (October 11), no killing frosts have occurred although

thickly falling leaves and highly colored foliage announce the arrival of fall. Early autumn finds the berry-bearing trees and shrubs with an extra-heavy crop of fruit. The acid berries of the Sour Gum are being devoured by large flocks of Robins, Cedarbirds, and numbers of Flickers; the scarlet berries of the flowering dogwoods remain untouched as yet, their astringent, puckery taste, apparently not being in favor while better viands can easily be found; along the coast an enormous crop of beautiful misty colored bayberries have ripened, with stored-up energy enough to supply all demands made upon them by the hungry host that will devour them during the coming winter.

By mid-August the fall migration was well under way, and many bird-voices could be detected almost any night as they made their way through the darkness overhead. About this time a number of trips were taken to the New Jersey coast where fall migration can be observed to greater advantage than inland. The usual number of Terns and shore-birds seemed to be present, though the latter, taken as a whole, were, perhaps, less abundant than last year (a banner shore-bird year). One of the abundant species was the Yellow-legs and from observations and reports there appears to have been a heavy flight of these birds. It is also well within bounds to say, from the number of records, that there was a slight but perceptible increase in the number of Upland Plover passing through during August. Two were noted at Cape May, August 15. At Sea Isle City, N. J., August 22, six Least Terns were noted, three of which were immature birds, and as the youngsters were constantly begging one of the old birds for food, it is quite probable that the birds had bred somewhere in the vicinity. On this same date a small flock of Turnstones and a Piping Plover were observed. The only Knots (flock of eleven) seen during the season were noted at Two-mile Beach, August 29. The northward summer migration of Little Blue Herons and Egrets reached marked proportions this season. Numerous reports from along the coast and points inland indicate that they were fairly common and widely scattered. As a usual thing, the Little Blues outnumber the Egrets, but it seems this year that the Egrets predominate. On September 19, at Cape May, ten Egrets and six Little Blue Herons were seen at one time feeding in a lagoon, truly an inspiring sight.

The first week of October brought the usual quota of White-throated Sparrows and Juncos, together with quite a number of Yellow-bellied Sapsuckers. Most of the Warblers, with the exception of the Myrtle, had by this time passed on.—Julian K. Potter, *Camden, N. J.*

Washington Region.—Bird-life has not appeared to be very abundant about Washington during August and September. Fewer distinct waves of migration than usual have been evident, and these, furthermore, have been less well marked than those of our autumn commonly are. Perhaps the most important of these, at least in so far as Warblers are concerned, appeared early in September, from the 4th to the 6th.

The moderate temperature and generally fair weather that prevailed during September seemed to have little effect on either the movements or the abundance of birds. Three species of Swallows were observed by F. C. Lincoln later in the year than they had previously been seen about Washington: the Barn Swallow, at New Alexandria, Va., on September 21, 1920 (latest previously reported, September 19, 1912); the Bank Swallow, at Hunting Creek, near Alexandria, Va., September 21, 1920, (latest previous record, September 19, 1886); and the Purple Martin, at the latter locality, September 21, 1920 (latest previously recorded, September 20, 1918). Also a few other birds tarried longer than customary, such as the Kingbird, seen at Dyke, Va., September 14, its average date of departure being September 1; and the Wood Pewee, noted at the same place on September 21, against an average date of September 19. On the other hand, a White-throated Sparrow was reported on September 29, five days ahead of the usual time.

A flock of 75 Broad-winged Hawks, seen on September 14 at Dyke, Va., by F. C. Lincoln, represents practically all of the migration of raptorial birds reported from Washington so far this fall, although, of course, other flights may easily have escaped notice, as here the birds passing over fly ordinarily at a considerable altitude.

Dr. A. K. Fisher noted many migrating Upland Plovers on August 16, which is apparent evidence of a continued and welcome increase in the numbers of this species in the eastern states. Until a comparatively few years ago an Upland Plover was a great rarity about Washington, but now it occurs in migration regularly, although, of course, limitedly, every year.

The conversion into parks of the flats and marshes along the Potomac and Anacostia rivers, which is now in progress, is gradually eliminating most of the best ground for water-birds close to the city of Washington. This is particularly noticeable in the number of Herons seen during the summer and early autumn. Formerly the Little Blue Heron and the American Egret used to appear at these seasons in considerable numbers, especially along the Anacostia River, but this year they seem to be inclined to avoid it, although the Little Blue Heron has visited it sparingly up to at least the middle of September. An American Egret was seen by L. D. Miner at Alexandria, Va., as late as August 20.

The Purple Martins that in June returned to their roost in the city of Washington have not been quite so numerous as in recent years. Furthermore, they have been very restless this summer, leaving the vicinity of the Red Cross Building for more aristocratic quarters in the White House grounds, where they remained until about August 6. After that they roosted in other places nearer the Potomac River and the outskirts of the city.—HARRY C. OBERHOLSER, *Biological Survey, Washington, D. C.*

MINNESOTA REGION. ITASCA STATE PARK.—Towards evening, on August 15, the first flock of migrating Night-hawks passed southward through the Park—a large, straggling company circling over the forest and feeding as they went along. Other flocks followed on subsequent dates, notably on the 25th, when the air seemed filled for several hours with the darting birds. Night-hawks are rarely seen in the Park during the nesting season as the country is not suited to their needs. The last of the Black Terns left between August 22 and 25. Several adults were seen on the 15th, still in the full black dress.

The three eggs in a Black-billed Cuckoo's nest that had been under observation for several days all hatched on August 11 and 12 and the young, by the 15th, were all nearly of the same size. In the experience of the writer this nearly simultaneous hatching of the eggs of our Cuckoos is the rule instead of a several-day interval between each egg, as described by some ornithological writers. Audubon's graphic description of a continuous process extending over several weeks has not applied to any one of a number of nests examined by the writer in Minnesota. The manner in which the uncanny, hissing, reptile-like young of the Cuckoo are fed is a singular and interesting performance. The youngster, rising with rapidly vibrating wings, seizes firmly the bill of the old bird to which it clings tightly, while, if my observations are correct, it *sucks* the food from the mouth of the parent. The birds are thus attached for a quarter of a minute or more. Several large, white, flat-topped papillæ or tubercles on the roof of the mouth of the young bird apparently assist it in maintaining its hold on the smooth bill of the old bird. A small finger-tip inserted well down in the open, upstretched mouth of a nestling is seized securely and a suction action is distinctly perceptible. All the various movements described have been secured the past summer in motion pictures.

MINNEAPOLIS VICINITY.—On October 6 and 7 a visit was made to the preserve of the Long Meadow Gun Club, ten miles south of Minneapolis, and the sloughs were

found to contain an immense number of Coots or Mud-hens and a most unusual abundance of Pintail Ducks. Due to freshets in the summer killing the growth of wild rice, the big sloughs are this fall like open lakes, and, covering the surface in almost unbroken ranks were thousands of Coots and hundreds and hundreds of 'Sprigs.' It was an interesting sight to watch the latter feeding. The water being only a little over a foot in depth, a good rear fourth of the bird projected above the surface when it 'tipped up' to feed from the bottom, and the sun, shining on the pure white of the underparts, produced the effect of a glistening white ball taking the place of the Duck. When hundreds of them were thus 'tipped up' at once all over the lake, it suggested, as some one remarked, a widespread array of white water-lilies. Pintails are always here in fair numbers but never before in the history of the Club has there been such an invasion. Other kinds of Ducks have thus far been rather scarce, and the shooting, up to mid-October, has been poor compared with last year when there was a remarkable influx of Ducks of many species, caused apparently by the great drought farther west. Last year, between September 15 and October 15, there were killed at the Club's grounds 510 Ducks; this year, during the same period, 272. Very few northern Ducks have appeared, caused, probably by, the warm weather. There has been a considerable movement of Ring-billed Gulls this fall and a rather more than usual number of Lesser Yellow-legs.—THOMAS S. ROBERTS, *Zoölogical Museum, University of Minnesota, Minneapolis, Minn.*

KANSAS CITY REGION.—An interesting event recorded during the present fall migration has been the very early arrival of Pelicans. Mr. William Andrews, who, readers of this letter may possibly recall, has his small home on a wooded and rocky point overlooking a picturesque bend of the Missouri River near Courtney, and who furnishes constant and reliable notes from that delectable region, advises that a flock of these large birds, numbering between 150 and 200, appeared on September 1. This is quite ten days earlier than any previously recorded date of arrival. Mr. Andrews' notes for the month of August are full of interesting and important matter, as, for instance, five Least Terns, numbers of Great Blue Herons, and swarms of Barn, Bank, and Cliff Swallows during the first five days; a small flock of Blue-winged Teal and several Pied-billed Grebes on the 13th; a great wave of mixed Sandpipers on the 21st; one immature Little Blue Heron (a most unusual species for this region) on the 22d; more and larger flocks of Blue-wings with a few Shovellers on the 30th and 31st; and on September 1 an immense wave of Kingbirds, several species of Warblers, Baltimore Orioles, Great Blue Herons (40 in sight at one time), and a few Least Terns.

The first three weeks of September were marked by no unusual activity among the migrants, save on the 7th, when Barn Swallows came in from the north in thousands, and on the 18th, when Pied-billed Grebes were to be seen wherever there was water enough to float one. The first Pintails, a flock of ten, appeared on the 21st, and a number of both immature and adult Herring Gulls were seen on the 24th. The 28th witnessed the greatest flight of the season, and may be accounted for by the fact that there arrived the next morning a cold wave accompanied by a high wind from the northwest. Birds noted ahead of this sudden and unfavorable change in the weather included ver seventy flocks of ducks (mostlyBlue-wings, Shovellers, and Pintails, with a sprinkling of Mallards), numbers of Yellow-legs, Coots, Spotted Sandpipers, Herring and Ring-billed Gulls, Turkey Vultures, Marsh Hawks, Broad-wings, and hordes of Tree Swallows.

The usual crowds of the commoner species were noted passing on time during the ten days following the cold wave. On October 10, Ruby-crowned Kinglets, Myrtle Warblers, Harris', White-throated, and Savannah Sparrows were found in numbers. On this date Dix Teachenor

brought in a specimen of Gambel's Sparrow, indicating again that this form is probably a regular migrant through western Missouri. Mr. Teachenor was the first observer, so far as the writer knows, to note the fact that this bird occurs regularly this far east, and hopes in time to accumulate a large enough series of specimens to establish the fact beyond question.

After several days of ideal weather, a noticeable movement of Meadowlarks, Bluebirds, Nighthawks, and other common species on October 12 and 13 indicated that the balmy days might soon come to an end. On the 14th a cold, driving rain set in from the northeast with promise of turning to snow, and now local observers are on the alert for that most stimulating of all wild music, the yodeling of Canada Geese.—HARRY HARRIS, *Kansas City, Mo.*

DENVER REGION.—The writer has often wondered if the ornithologist of the future will predict migratory waves as the meteorologist forecasts storms; would a full knowledge of the weather conditions over the subpolar regions enable one to foretell bird-waves? Weather conditions in the north of Colorado and in the high altitudes of the state, and especially about Denver, have been mild, and, in fact, ideal for the continued stay of our Warblers, for example. Yet some of them seemed to have reached this region and passed on considerably earlier than normal.

The earliest date that Audubon's Warbler has been seen by the writer in this neighborhood is September 28, and the latest October 20, yet this year it appeared here in numbers on September 19, and none have been noticed since September 28; in other words, the wave of south-going Audubon Warblers appeared this fall ten days early, and was over with by September 30. On the other hand, the Yellow Warbler was last seen here on August 29, which is as late as the writer has ever seen it here. The Pileolated Warbler's previous latest appearance hereabouts is September 14, while this year it was September 20. These three species of Warblers certainly give no inkling as to what relation the local weather conditions have with their migration movements—one left on time, so to speak; one was ten days early; and one seven days late! It is of interest to ask what might have been the conditions in the higher altitudes, where the Audubon and the Pileolated Warblers breed, that caused these anomalies in migration, for such they appear to me. Bronzed Grackles breed sparingly in and about Denver, but only appear in large flocks any time between September 15 and 30; this season they came in flocks at the usual time. The latest date on which the writer has noted Audubon's Hermit Thrush in this neighborhood, in the past is August 31, yet this year one was recorded as having been seen near my house on September 28. Though believing that these late-appearing Bronzed Grackles and the Thrush are not the leftovers of our breeders, but most likely migrants from the North, the writer has, however, no way of proving this idea, but hopes that banding will help solve the question. He looks forward eagerly to the data which will be accumulated when this banding method gains the prominence it merits. The Robin migration during the season just passed has been very characteristic, coming in great waves, as in years past, a few days exhibiting extraordinary numbers, followed by days of relative scarcity. One very large wave centered about September 18. Bullock's Orioles commonly depart in the third week of August, which was true of this year. This species has been noted by myself here as late as September 24.

Clay-colored, Brewer's, and Chipping Sparrows have been exceedingly common the past two weeks; in fact, many more than usual have been noted since August 21; they are thinning out at this writing. There have been rather more Rock Wrens than usual, and they have reached the region notably earlier than ordinarily; the usual abundance occurs, on the average, during October, while this year it was noted in September.

My general impression of the past two months is that the most characteristic

migrants have passed through the region very early. In fact, the contrary was anticipated by the writer as he noted the continued mild weather, hence he has not been very much impressed with his forecasting ability.—W. H. Bergtold, *Denver, Colo.*

San Francisco Region.—Dates of departure of summer residents are very difficult to ascertain. The following list is incomplete, but may serve to supplement other data.

The Allen Hummer was seen by Miss Wythe in the Botanical Gardens on the University of California campus October 11. This is a late date, though they are abundant during September, contesting the Anna Hummer's right to corner the supply of honey stored by salvias, honeysuckle, lion's tongue, and other late-blooming flowers. Olive-sided Flycatchers had young still in the nest the last days of July. The first half of August they were still conspicuous a few blocks from the nesting-site and disappeared before the end of August. The western Wood Pewee was seen in a Berkeley cañon September 23, but I have no record of it between August 24 and that date. The Western Flycatcher was seen frequently up to September 25. The Black-headed Grosbeaks had apparently disappeared by the third week in August, but Dr. Grinnell reports one in North Berkeley on September 28. The Lazuli Bunting was heard singing on August 16. The Yellow Warbler was seen September 29, and the Pileolated, September 15. September 23 probably represents an average date for the departure of most of the House Wrens, but some individuals remain through the winter. The Russet-backed Thrush is often seen during the third week in September, but this year my last record is dated September 5. Mrs. Kelly, however, reports a flock of twenty Russet-backed Thrushes still feeding on pyracantha berries in her garden in Alameda on October 12.

The list of transients includes the Western Gnatcatcher, September 8; California Woodpeckers, September 19 to October 3; Traill Flycatcher, September 18; Western Tanagers, August 28 to September 10; and Lewis Woodpeckers, October 3.

The winter residents registered so far are: Sharp-shinned Hawk, August 30; Red-breasted Sapsucker, October 8; Intermediate Sparrow, September 23; Golden-crowned Sparrow, September 29 (in the Claremont Hills); Fox Sparrow, October 4; Audubon Warbler, September 24; Townsend Warbler, October 2 (Miss Wythe); Ruby-crowned Kinglet (on Tamalpais), October 10; and Hermit Thrush (Mill Valley), October 10. Five Juncos and twenty-five Western Robins were seen on the campus September 18, but both were interpreted as locally bred, as Robins were reported numerous in outlying districts of San Francisco in early September, and both Robins and Juncos had been breeding in several localities in the Bay Region.

A visit on September 14 to the lower reaches of San Francisco Bay, where one of the gun clubs is pumping fresh water to fill artificial ponds, resulted in a very satisfactory introduction to Avocets, Black-necked Stilts,—and Yellow-legs (both Lesser and Greater). Pintail Ducks were present by the thousands, and on the salt water Northern Phalaropes were very abundant. A flock of about thirty White Pelicans maneuvered over the ponds. Shore-birds have been very much reduced in numbers on the Alameda Estuary this fall. With the tide right, and other conditions apparently favorable, the list for September 25 included: Two Eared Grebes; a few Western, California, and Ring-billed Gulls; three Cormorants; a small flock of Western Sandpipers; three Marbled Godwits; one Willet; one Black-bellied Plover; and fifteen Killdeer. Similar conditions have prevailed through the fall, and seem to indicate that the birds have found more favorable feeding-grounds.—Amelia S. Allen, *Berkeley, Calif.*

Los Angeles Region.—Late summer in the vicinity of Los Angeles offers little worthy of special notice. The scarcity of the resident birds of the open country and

foothill cañons has been noted and commented on by nearly all our observers. Arizona Hooded Orioles were recorded by three different observers as remaining until September 20, about a month later than their usual time of departure. The young were still being fed September 14, but whether they were a second brood or not was not determined. One full-plumaged male was seen and its call heard September 19. No other males were noted later than August 26. A Dove's nest with four fresh eggs was found September 4. A very noticeable falling off in the numbers of Doves and Meadowlarks, as compared with three or four years ago, may be attributed in part at least to the use of poisoned grain in the organized campaign carried on for the extermination of the ground squirrel. Quail, which keep more to the cover of brushy hills and cañons, are apparently holding up better. Meadowlarks, however, were seen in great numbers in the Antelope Valley in the early part of September, as were also Crows, Sparrow Hawks and Ravens.

At the summit on the Ridge route (altitude 5,320 feet) overlooking Antelope Valley, birds of many species were abundant. Among those noted in a brief stop were Western Bluebirds, Purple Finches, Plain Titmice, Slender-billed Nuthatches, Green-backed Goldfinches, and many California Woodpeckers. Twenty-five white Pelicans were seen in flight over Crane Lake on September 4.

August records include four Anthony Green Herons at Echo Park Lake on the 3d, and on the 7th 75 Heermann Gulls at Laguna Beach, most of them in the dark plumage of the young birds.

August 20, at the entrance of Eaton Cañon, a very large number of Western Tanagers was seen, apparently all females or young. On the 26th, another large flock was seen in Griffith Park, which included males still in summer plumage. The Black-chinned Hummingbird was still with us September 15, and on that date one Rufous Hummingbird was seen. September 19 brought in migrating Brewer, Black-chinned, and Lincoln Sparrows. The Gambel Sparrow was, as usual, the first of our regular winter visitants to return, one bird being reported about September 20. The next report given me was for the 24th, and after that there were daily accessions until his cheery little song announced his presence in all our gardens by the end of the first week in October. Next to arrive was the Audubon Warbler, first seen on September 24, and abundant in a few days. Say's Phœbe was found at Silver Lake on its usual winter hunting-ground, September 24. Several Western Gnatcatchers were also there on that date. Little has been seen of the fall migration of Warblers. The Pileolated and the Yellow, which have been seen from time to time through the summer, have had their numbers augmented. A few Lutescents have been noticed, and the Dusky that usually comes in July or August delayed his arrival until October 1.

The migration of shore-birds likewise has been somewhat later than the average, with intervals of almost total absence of those birds ordinarily common. Most striking is the small flocks of the Least and Western Sandpipers, as contrasted with the thousands of former seasons. Marbled Godwits have been more abundant than is usual, as have also the Yellow-legs and Black-bellied Plover. A fairly representative list for September 12 included two Egrets, three Ruddy Turnstones (rare), and two Avocets. September 9 a large flock of Northern Phalaropes, conservatively estimated at 1,000, were seen on an inlet near Long Beach. They have remained through the month and have been seen by many observers, though their numbers have varied, 200 estimated October 5. October 3 two Surf-birds were seen near Long Beach, attesting to the suitability of their name by their actions. September 28, October 5 and 7, at Playa Del Rey, an Osprey was studied by large classes. He was observed perching above the lagoon on watch, soaring over the waters, displaying his plumage to our interested gaze, plunging for his prey, and bearing off a fish in his talons. — FRANCES B. SCHNEIDER, *Los Angeles, Calif.*

Book News and Reviews

Revision of the Avian Genus Passerella with Special Reference to the Distribution and Migration of the Races in California. By H. S. Swarth, University of California. Pub. in Zoöl., Vol. 21, No. 4, pp. 75–224; plls. 4–7; figs. 30; Sept. 11, 1920.

Of the sixteen races of Fox Sparrow treated in this monograph, only one, our common *Passerella iliaca iliaca*, is found east of the Rocky Mountains, while the remainder are distributed, during the nesting season, from southern California north to Alaska. During the winter all the western forms occur regularly, and the eastern form casually, in California. To the eastern field student, a Fox Sparrow is simply a Fox Sparrow and one of the easiest members of its family to identify. But the observer on the Pacific coast may focus his glass on any one of the fifteen, or possibly sixteen, races and, as Mr. Swarth tells us that even in the study he cannot definitely name all the specimens of Fox Sparrows he has examined in the preparation of this paper, it is clear that many field identifications must be followed by an interrogation mark.

However, as far as descriptions of plumage, migration routes, dates of occurrence, etc., go, Mr. Swarth has here given the student all the assistance he may expect to receive of this kind. Of much greater importance are the results of his studies as they reveal suggestive facts in relations and in distribution, extent of migration, and winter as well as summer areas of occupation. In these, and in other respects, this paper contains much of value to the faunalist and ecologist, so much, indeed, that we regret the author has not presented a summary of his discoveries, conclusions, and theories, that those who run in other fields of science may read.

The line cuts, maps, and photographs are instructive, but the colored plate by Brooks, showing four races of Fox Sparrows would in our opinion have been more effective (if less pleasing) if the birds had been treated as specimens with no attempt to make a picture. When we compare birds' skins we do not place them at different angles and in different directions against a parti-colored background.—F. M. C.

The Food of West Virginia Birds. By Earl A. Brooks. Published by the State Commission of Agriculture, Charleston, W. Va. 8vo. 74 pages; photographs and colored plates.

This is a readable and practical little manual of economic ornithology in which the author has succeeded in placing a large amount of information in a comparatively limited space. Although prepared for use in West Virginia, it will answer admirably for a general textbook.—F. M. C.

Guide to the Summer Birds of the Bear Mountain and Harriman Park Sections of the Palisades Interstate Park. By P. M. Silloway. 8vo. 105 pages; 1 map; 32 half-tones from photographs. New York State College of Forestry, Syracuse, N. Y., 1920.

This paper is based on the field-work of the author from May 27 to August 8, 1918, and June 6 to July 31, 1919. During this time he observed 88 species. Adding to this number the birds reported by Mearns* as breeding in the same region, but not found by Silloway, and the summer birds of this district number considerably over one hundred species. Prepared as a guide for the use of visitors to the Park, the author tells how the Park may be reached, describes its general characteristics, gives the student some excellent advice on how to study birds in the field, tells him where certain birds may be found, and adds three well-annotated lists of the birds observed at as many localities.

Situated at the northern limit of the Carolinian fauna there is, as might be expected, a representation of Alleghanian forms. Thus the Hooded, Blue-winged,

*A List of the Birds of the Hudson Highlands. Bulletin Essex Inst., in Vols. X–XIII, 1878–81.

and Worm-eating Warblers are common and the Turkey Vulture "was frequently seen during the season of 1919," while among the more northern forms found nesting or with young are the Black-throated Blue and Nashville Warblers, and the Canadian Warbler is believed to nest.

The purpose for which this and other similar papers on the natural resources of Bear Mountain Park are prepared cannot be too highly commended. We understand that over 70,000 persons camped in this park system during the past summer. Here is material for a class in nature-study which, properly developed, presents almost limitless possibilities.

Fortunately, the Park Commissioners, by the publication of these guides and the establishment of a local museum, have evidently determined to offer campers not only a home near to nature but an opportunity to learn something of their surroundings.—F. M. C.

The Ornithological Magazines

The Auk.—In the October number of *The Auk* 'Pattern Development in Teal,' by G. M: Allen, takes the description of a southern race of Blue-winged Teal as occasion for a discussion of pattern formation. The surface of a bird's body may be divided into several areas from whose individual centers the tendency to produce pigment tends to become less and less as the periphery of the particular area is reached. White markings tend to appear along the dividing-lines between adjacent areas. Such is the white ring on the neck of the drake Mallard and the white head-marking which characterized the adult male of the Southern Teal. 'Migration and Physical Proportions' by C. K. Averill, calls attention to the relation between length of wing and tail in birds of great powers of flight. The wing is not only long but the tail short, especially in the median line of the bird's body. Bill and feet also tend to be reduced. Tabular arrangement of measurements of various related Warblers shows that the slight differences in proportion are towards such flight efficiency of form, in those species that have the longest migration routes. This paper proves how matters of philosophic interest may sometimes be brought out by statistical consideration of purely descriptive data.

'Limicoline Voices,' by J. T. Nichols, is an attempt to describe and explain the varied call-notes of shore-birds. Species with similar habits have notes corresponding in significance, allied species' notes corresponding in derivation which frequently differ in significance. Which of its repertoire of call-notes an individual will use is related to what it is doing and what is going on about it; its state of mind (as alarm or confidence, etc.) being probably reflected in subtle differences of tone.

There are three faunal papers: 'Summer Bird Records from Lake County, Minn.,' by C. E. Johnson, lists 89 species. It will give some idea of this country and its birds to mention that the Red-tailed Hawk and Great-horned Owl were found breeding and that Olive-backed and Hermit are the two Thrushes. 'In the Haunts of Cairns' Warbler,' C. W. G. Eifrig, is a delightful narrative dealing with ornithology of the Maryland Alleghanies. Interesting comparisons are drawn between conditions here in the summer of 1918 and what they had been a number of years previous, some of the changes being directly traceable to encroaching settlement. Edward Fleisher gives an annotated list from the result of intensive field observation on the coast of southeastern North Carolina in middle April. Ninety-seven species are listed, the most interesting which he observed being a single individual of the Roseate Spoonbill. The unexpected scarcity of those arboreal transients that reach our more northern latitudes in a wave as the trees come into leaf, is additional evidence that this wave of birds along the Atlantic coast moves northward very rapidly.

'General Notes' contain a great variety of matter of unusual interest. The Louisiana Heron is recorded from Cape May, N. J., by Stone. Frequent occurrence of southern Herons to the north in recent years is probably indicative of increasing

numbers on their breeding-grounds. Several notes are contributed by H. F. Lewis of Quebec. This year (1920) he found the nest of the Willet in Nova Scotia where the species has probably bred continuously in small numbers since the early days. This writer also suggests the possibility that migration routes of Ruby-crowned Kinglets may be followed through a study of their song variation. Shufeldt calls attention to changing nesting habits of the House Sparrow. C. G. Andrus, a Weather Bureau observer at Lansing, Mich., gives data on the height and speed of a flight of birds, not identified, though very likely Ducks. There is dearth of definite data on this subject in ornithology and the note illustrates how chance will sometimes turn the technique of one science to the advantage of another.—J.T.N.

THE CONDOR.—The July and September numbers of *The Condor* contain an unusually interesting series of articles on western ornithology. The July number opens with an excellent sketch, by H. S. Swarth, of Frank Slater Daggett, Director of the Museum of History, Science, and Art, of Los Angeles, who died April 5, 1920. A portrait and a bibliography of thirty-nine titles accompany the article. Bassett describes the 'Variations in the Song of the Golden-crowned Sparrow' as he has heard them in California, and Wetmore gives the results of 'Observations on the Habits of the White-winged Dove along the Gila River in Maricopa County, Ariz., in June, 1919. Claims of damage by Doves are frequently made because wheat is found in the birds' crops. "Observations of the feeding birds, however, soon showed that all save a very small part of the grain was waste gleaned from the stubble." Willett, who has published several articles on the birds of Forrester Island, Alaska, based on field work in 1914–17, is now able, as a result of observations made in the summer of 1919, to add the Slender-billed Shearwater, American Merganser, and Dwarf Hermit Thrush to the list of birds previously known from the island. Taylor describes 'A New Ptarmigan from Mount Rainier' as *Lagopus leucurus rainierensis*, and Grinnell separates the Brewer Blackbird of California as a distinct subspecies under the name *Euphagus cyanocephalus minusculus*, selecting as the type a winter bird collected at Palo Alto, January 26, 1901.

Two of the articles in the September number deal with birds of the National Parks and two with those of Alaska. Skinner contributes a paper on 'The Pink-sided Junco' in the Yellowstone and Milicent H. Lee some 'Notes on a Few Birds of the Grand Canyon, Arizona,' as observed on an early June morning at the Indian Gardens on the Bright Angel Trail. Hanna publishes some 'New and Interesting Records of Pribilof Island Birds,' in Behring Sea, Alaska, accompanied by a table showing the birds which breed on each of the islands in this group. The list of breeding birds now includes 20 species, of which only 4 are land-birds. As a result of experiences in 1911 and 1912 Dice furnishes a series of 'Notes on Some Birds of Interior Alaska.' The list includes comments on 86 species, of which only 28 are water- and shore-birds and 58 land-birds. One of the most important articles is that by Wetmore on 'The Function of Powder-downs in Herons.' From observations made on a Treganza Great Blue Heron, kept in captivity, and later on the Snowy Heron, Black-crowned Heron, and Bittern, he failed to substantiate reports that the tracts were luminous but found that before the oil-gland develops they furnish an oily substance which is used by the bird in dressing its feathers.—T. S. P.

Bird-Lore

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Bird-Lore's Motto:
A Bird in the Bush Is Worth Two in the Hand

As we close the twenty-second volume of BIRD-LORE and mentally review its contents for the year, we realize our indebtedness to those who have helped to make the volume for 1920 measure up to the standard of its predecessors.

Especially are we grateful to the contributors to ('The Season') and we are confident that BIRD-LORE's readers share our gratitude. Our chain of 'Stations' now reaches from the Atlantic to the Pacific and the bi-monthly summary from them of conditions in the bird world may be read with profit not only by present-day observers, but they constitute records of real reference value for all time.

While prepared more especially for the use of teachers, Dr. Allen's editorials and articles in the School Department have, in our opinion, formed one of the most important features of BIRD-LORE during the past year. Designed to present a general résumé of the subjects of which they treat, they contain also much original material and may, therefore, be studied to advantage not only in the classroom but by ornithologists who have long passed the pupil stage.

THE annual report of the National Association of Audubon Societies, published in this number of BIRD-LORE, is a most encouraging document. Every word of it should be read by those who are interested in the things for which this organization stands, but we call attention particularly to that portion of the report which deals with the Association's work in forming Junior Audubon Classes. Therein we learn that over 280,000 children were enrolled in these classes under the care of teachers who had volunteered to lead them over the first stages of the path toward a knowledge of the beauty and value of bird-life. This does not mean that this great army of boys and girls will continue to pursue their quest of bird-lore without further aid. Doubtless to the majority of them membership in the Audubon Society will be only a pleasant incident of the year, later to become a memory of their childhood. But to thousands this introduction to their bird neighbors will be among the most lasting and potent influences of their school lives. Classmates will go their way, grow and change, but these new friends among the birds will remain forever the same, and continued association with them will become an ever-increasing source of purest delight.

When one pauses to consider the educational, recreational, and spiritual value of this opportunity which, during the coming years, the Audubon Society will offer to millions of American children, one cannot fail to be impressed by the magnitude and importance of its achievements in this one field alone. Every true bird-lover will learn with regret that for lack of funds the Association was obliged to close the door in the faces of thousands of little seekers of bird-lore. While the number of children to be enrolled annually is doubtless limited only by the financial resources of the Association, we realize that it cannot hope to cover the whole field in a single year; but it does seem unfortunate that it should not be in a position to aid those who come to it for assistance.

As we go to press, the thirty-eighth stated meeting of the American Ornithologists' Union is in session with a large attendance and an excellent program. Increased popular interest in the Union is indicated by the election of over 300 associate members.

The Audubon Societies

SCHOOL DEPARTMENT

Edited by A. A. ALLEN, Ph.D.
Address all communications relative to the work of this department to the Editor, Cornell University, Ithaca, N. Y.

WINTER BIRDS' NESTS

When the November winds clear the leaves from the trees and bushes many of Nature's secrets stand revealed. Along the highways the nests of the Orioles and the Goldfinches that were so artfully concealed during the summer now flaunt themselves in our faces. In the shrubbery about the garden the nests of the Song Sparrow and the Catbird and the Yellow Warbler suddenly jump into view as though they were scornfully asking "Where were your eyes last summer?" Now, if ever, we realize what adepts at the art of concealing their nests the birds really are. Some of the nests we readily identify, for even though the birds have flown, we remember how frequently we saw them about the particular tree the previous summer. Other nests that we meet with on our walks afield or that are brought to us we fail to recognize.

There is something fascinating about a bird's nest when we stop to examine it, or even if we pass it by with a cursory glance, we cannot help feeling the little romance that surrounds it. We marvel at the skill with which the strings or fibers are woven together or we wonder at the patience required to gather the innumerable tiny grasses and hairs that make up the nest. Until we know the bird that built the nest, however, we are discontented, and it is always with great satisfaction that we finally make up our minds as to just what bird built it.

There is scarcely a schoolroom in the country that does not at some time or other come into possession of a bird's nest or a small collection of nests. Sometimes the children seem to develop a mania for collecting nests and the school is flooded with them. Ordinarily these nests lay around without much care until the teacher gets disgusted with the meaningless litter and throws them into the waste-basket. If, however, the nests are given a little attention; if there is a place to keep the collection; and, particularly, if the teacher can identify the nests, the collection can be made one of the valuable accessions to the schoolroom. It is the intention of these paragraphs to encourage the making of these nest collections and to show how they may be identified.

The best time to start such collections is in November or December after the leaves have fallen. The nests are then easy to find, and no harm is done by collecting them for the birds have left them and, in very few cases, is the same nest used a second time. Of course, the nest which has been watched through the summer and about which one knows the entire history is the most interesting, but much can be learned from nests that are discovered in winter

for the first time. In collecting a nest it is always best to cut off the branch upon which it rests and preserve them together. The position of the nest upon the branch and its method of attachment are often as interesting and as necessary for identification as the materials from which the nest is made. It likewise provides the best means for preserving the nest for, with a few strands of fine copper wire or strong thread, it can be 'sewed' to the branch so that it will not fall off when it dries out. Wire loops or screw eyes can then be fastened to the branch so that it can be hung on the wall or in the cabinet. If for any reason it is not feasible to cut off the branch, the nest should be placed in a cardboard box, such as a collar-box, so that it will hold its shape and not drop litter. When nests are properly cared for, it is remarkable how many can be kept in a small space, and space is always at a premium in a schoolroom. Each nest should bear a neat label giving its name, where it was found, and the name of the child who discovered it. This makes the collection more useful, gives it a neater and more businesslike air, and usually gives all the stimulus that is needed to keep up the children's interest. Only such nests as appear in good state of preservation should be kept.

In some communities where school exhibits form an important part of the educational régime, held either at the school or at the county fair, exhibits of birds' nests prove very attractive. If it is an exhibit of a single school, each child usually prepares an exhibit of a single nest. If it is a county exhibit, the school may exhibit its entire collection. The individual exhibits usually consist of a large card upon which is fastened the nest, a colored drawing or picture of the bird, and a composition or essay about the bird. This can be entirely the work of one child or it may represent the selection of the best nest, the best essay, and the best drawing from the school, according to the provisions of the competition. Great care should be given to the identification of the nests.

The most satisfactory and most accurate way of identifying a bird's nest is to discover it while it is still occupied and to identify the builder. Then after the young have flown, it can be taken and it will mean much more in the collection, and a much more interesting essay can be written about it. In case it is not found until winter, the teacher should help the child to identify it by means of the appended key. There is a great deal of variation in birds' nests of the same species, particularly when in the different states of preservation found in winter. The general type of nest built by each species, however, is fairly constant and, in writing the key, the attempt has been made to select the characters which seem most constant. The specific materials of which a nest is constructed often vary according to what is most available, and unusual nests are frequently found that defy identification by anyone but a specialist. Thus, House Wrens ordinarily build the outside of their nests of small twigs, but one was sent to the author which was made chiefly of wire clippings and hair-pins. The size and particularly the depth of a nest vary with the state of preservation

in which it is found, and the key will prove practicable only for such nests as are fairly well preserved.

Ninety per cent of the nests found by children in northeastern United States will belong to one of the following nine birds that are common and whose nests are conspicuous when the leaves fall: Catbird, Chipping Sparrow, Goldfinch, Baltimore Oriole, Redstart, Robin, Song Sparrow, Red-eyed Vireo, and Yellow Warbler. The nests of birds that build on the ground are not ordinarily found except when they are occupied and can be identified by seeing the birds themselves. In this key, therefore, they are grouped together to save space.

For the benefit of those who are not familiar with the use of keys, the following brief explanation is given: The first section of the key divides the nests into eleven divisions. First determine in which of these a nest belongs, and then turn at once to that division and trace it through. Whenever a letter is doubled or trebled, it indicates alternative conditions, and after determining under which one the nest falls, the others are ignored and the tracing continued under the correct heading.—A. A. A.

KEY TO THE NESTS OF THE COMMON SUMMER RESIDENT BIRDS OF NORTHEASTERN NORTH AMERICA

A. On the ground or in tussocks of grass..... I
AA. In the ground (in burrows)..... II
AAA. Above ground, in bushes or trees, on cliffs, or about buildings
B. Hanging or semi-pensile nests..... III
BB. Not hanging
C. In holes in trees or in bird-boxes..... IV
CC. Not in holes
D. Containing sticks or large twigs..... V
DD. With no sticks
E. Felted nests of cottony materials..... VI
EE. Not felted
F. Containing an inner layer of mud..... VII
FF. With no mud
G. Covered with lichens..... VIII
GG. With no lichens
H. Mostly of bark, fibers, and rootlets, with or without horsehair lining..... IX
HH. Mostly of grasses, rootlets, straws, and leaves, usually with horsehair in the lining
J. Not spherical..... X
JJ. Spherical nests..... XI

I. On the Ground or in Tussocks of Grass: These nests are seldom found except when occupied, and then can be identified by the birds. Only a list will be given. See also spherical nests.

In Fields: Bobolink, Bob-white, Field Sparrow, Grasshopper Sparrow, Horned Lark, Killdeer, Meadowlark, Nighthawk, Pheasant, Savannah Sparrow, Song Sparrow, Spotted Sandpiper, Vesper Sparrow.

In Woods: Black and White Warbler, Brown Thrasher, Canadian Warbler, Hermit Thrush, Junco, Louisiana Water-Thrush, Mourning Warbler, Ovenbird, Ruffed Grouse, Song Sparrow, Towhee, Veery, Water-Thrush, Whip-poor-will, Woodcock.

In Marshes: Bittern, Black Duck, Black Tern, Coot, Florida Gallinule, King Rail, Loon, Marsh Hawk, Maryland Yellow-throat, Pied-billed Grebe, Short-eared Owl, Sora Rail, Swamp Sparrow, Virginia Rail, Wilson's Snipe.

II. In Burrows in the Ground:
- A. Nesting in colonies in sand-banks ..... Bank Swallow
- AA. Nesting singly
  - B. Drilling its own burrow ..... Kingfisher
  - BB. Utilizing some other burrow ..... Rough-winged Swallow

III. Hanging or Semi-pensile Nests:
- A. In reeds or swamp bushes
  - B. Open above
    - 1. A platform only slightly hollowed ..... Least Bittern
    - 2. Deeply hollowed ..... Red-winged Blackbird
  - BB. Spherical nests—opening on side .. Long- and Short-billed Marsh Wrens
- AA. In upland bushes and trees
  - B. Small, less than 2 inches deep inside, fully suspended
    - 1. In berry bushes ..... White-eyed Vireo
    - 2. In low branches or saplings ..... Red-eyed Vireo
    - 3. In evergreens (usually) ..... Blue-headed Vireo
    - 4. In middle of tree ..... Yellow throated Vireo
    - 5. In tree top or outer branches ..... Warbling Vireo
  - BB. Small, semi-pensile, partially supported ..... Acadian Flycatcher
  - BBB. Larger, over 2 inches deep inside
    - 1. Of dried grasses, sometimes partially supported .... Orchard Oriole
    - 2. Of fibers, strings, and the like ..... Baltimore Oriole

IV. In Holes in Trees or in Bird-Boxes:
- A. Nesting in colonies ..... Purple Martin
- AA. Nesting singly
  - B. Drilling holes, no nest at bottom
    - 1. Opening about 1½ inches ..... Downy Woodpecker
    - 2. Opening about 1¾ inches ..... Hairy Woodpecker
    - 3. Opening about 2 inches ..... Red-headed Woodpecker
    - 4. Opening over 2 inches ..... Flicker
  - BB. Using old Woodpecker holes or natural cavities of the same size or bird-houses with similar openings, building a nest at bottom of cavity.
    - 1. Nest of sticks lined with feathers ..... House Wren
    - 2. Nest entirely of grasses ..... Bluebird
    - 3. Nest of straws and feathers
      - *a.* Nest cuplike, open above ..... Tree Swallow
      - *b.* Nest spherical or partially arched. .. House (English) Sparrow
    - 4. Nest of fibers, moss, wool, and feathers .. Chickadee and Nuthatch
    - 5. Nest usually containing a cast snake-skin ..... Crested Flycatcher
  - BBB. Using Flicker holes or natural cavities of similar size, no nest built ..... Sparrow Hawk, Screech Owl, and Saw-whet Owl
  - BBBB. Using larger natural cavities ..... Barred Owl, Great-Horned Owl, and Wood Duck

V. Containing Sticks or Large Twigs:
- A. Bulky nests in trees, 15 to 60 inches outside diameter
  - 1. Very large, 30 to 60 inches ..... Fish Hawk and Bald Eagle
  - 2. Smaller, no lining, flat ..... Herons
  - 3. Hollowed, lining of bark ..... Crow and Owls { Great-horned, Long-eared }
  - 4. Hollowed, lining of fresh leaves or evergreens .. Hawks { Red-shouldered, Red-tailed, Cooper's, Sharp-shinned }
  - 5. Spherical nests ..... Squirrels
- AA. Smaller nests, less than 15 inches outside
  - B. Cuplike, in chimneys, hollow trees, or silos ..... Chimney Swift
  - BB. Otherwise
    - C. Platform, very shallow
      - 1. No lining ..... Mourning Dove
      - 2. A little lining ..... Cuckoos

CC. Deeply hollowed, 1 to 3 inches deep
D. In thickets or scrubby trees, under 3½ inches inside diameter
1. Lining of leaves and rootlets . CATBIRD AND BROWN THRASHER
2. Lining of bark and wool . . . . . MIGRANT SHRIKE
DD. In trees usually evergreen, over 3½ inches inside diameter. . . BLUE JAY

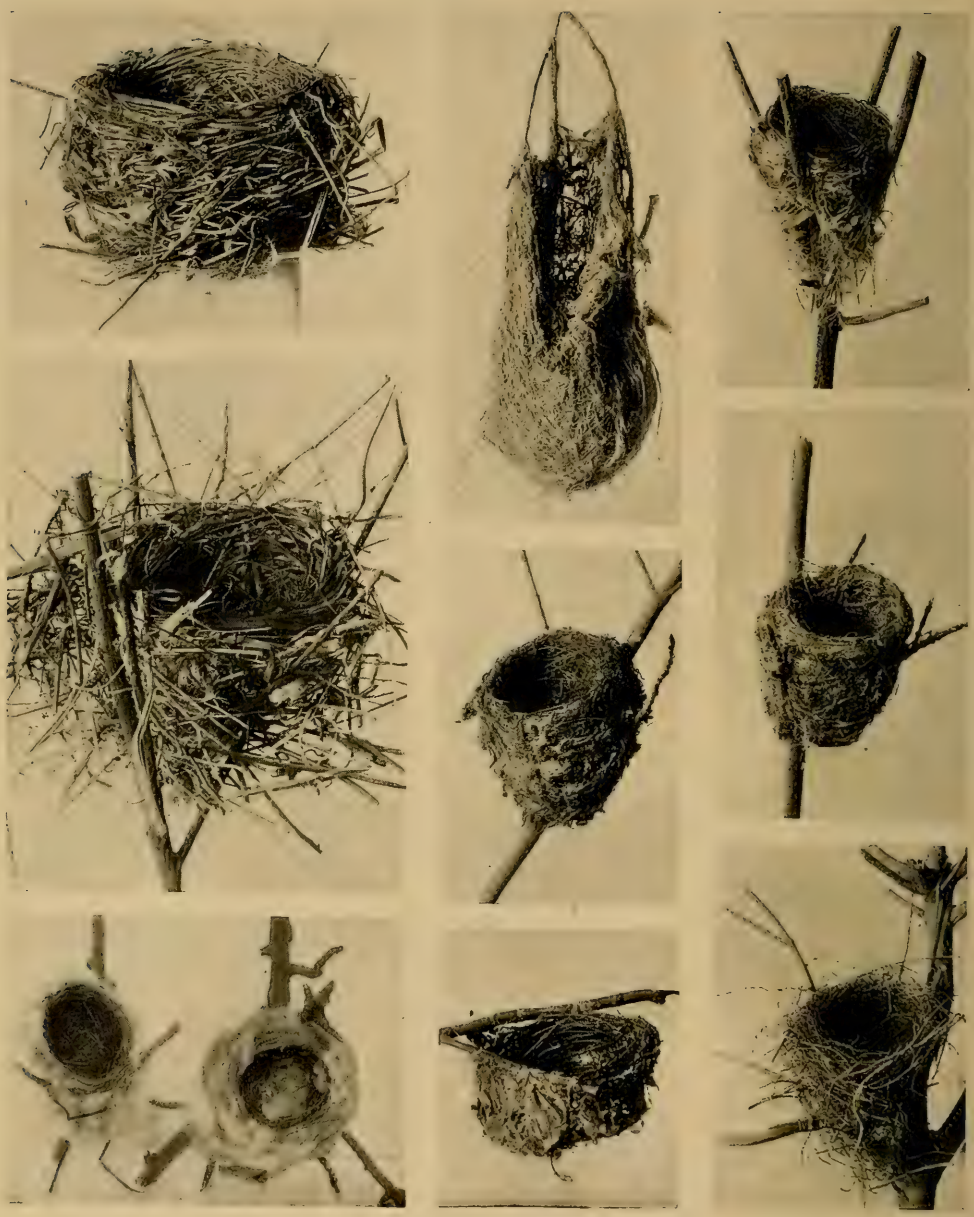
VI. FELTED NESTS OF COTTONY MATERIALS:
A. Nests wider than high, containing thistledown . . . . . GOLDFINCH
AA. Nests higher than wide, no thistledown
B. Thick walled, usually in vertical fork of bush or tree. . . . YELLOW WARBLER
BB. Thick walled, usually on horizontal branch of apple or similar tree usually decorated with bits of paper . . . . . LEAST FLYCATCHER
BBB. Thin walled, usually close to trunk of small sapling . . . . . REDSTART

VII. CONTAINING LAYER OF MUD:
A. Built in trees
B. Of grasses and mud, usually no moss, or dead leaves
1. Under 4 inches inside diameter . . . . . ROBIN
2. Over 4 inches inside diameter . . . . . BRONZED GRACKLE
BB. Containing dead leaves and usually moss . . . . . WOOD THRUSH
AA. Built on buildings, bridges, or cliffs
B. Outer layer of grasses, mud within
1. Under 4 inches inside diameter . . . . . ROBIN
2. Over 4 inches inside diameter . . . . . BRONZED GRACKLE
BB. Outer layer of mud, some grasses
1. Open at top, cup-shaped . . . . . BARN SWALLOW
2. Open at side, gourd-shaped . . . . . CLIFF SWALLOW
BBB. Outer layer of moss and mud . . . . . PHŒBE

VIII. WITH AN OUTER COVERING OF LICHENS, SADDLED ON BRANCH
A. Very small, less than 1½ inches outside diameter . . . . . RUBY-THROATED HUMMINGBIRD
AA. Larger, over 1½ inches outside diameter
1. Very deep, over 1½ inches . . . . . BLUE-GRAY GNATCATCHER
2. Shallow, under 1½ inches . . . . . WOOD PEWEE

IX. MOSTLY OF BARK, FIBERS, AND ROOTLETS, WITH OR WITHOUT HORSEHAIR LINING
A. Small woodland nests, usually in evergreens, less than 2 inches in diameter (seldom found) . . PINE WARBLER, MAGNOLIA WARBLER, BLACK-THROATED GREEN WARBLER, PURPLE FINCH, BLACKBURNIAN WARBLER
AA. Small woodland nests, less than 2 inches in diameter usually in bushes or sprouts
1. No dead wood in botton . . . . . CHESTNUT-SIDED WARBLER
2. Bits of dead wood in bottom . . . . . BLACK-THROATED BLUE WARBLER
AAA. Orchard or woodland nests, over 2 inches inside diameter
B. Usually thin, flimsy structures
1. Little or no lining, usually in high bushes . . . . . ROSE-BREASTED GROSBEAK
2. Considerable lining, usually in trees . . . . . SCARLET TANAGER
BB. Thick, well-formed structures with some cotton or wool
1. Shallow, about 1 inch deep . . . . . KINGBIRD
2. Deeper, about 1½ inches deep . . . . . CEDAR WAXWING

X. MOSTLY OF GRASSES, ROOTLETS, STRAWS, AND LEAVES, USUALLY WITH HORSEHAIR IN THE LINING, AND NOT SPHERICAL
A. With many leaves, placed in weeds, ferns, or low bushes
1. Under 2 inches inside diameter . . . . . INDIGO BUNTING
2. Over 2 inches inside diameter
a. Nest placed on mat of leaves . . . . . VEERY
b. Leaves woven into nest . . . . . YELLOW-BREASTED CHAT
AA. With few or no leaves
B. Less than 1¾ inches inside diameter
1. With thick horsehair lining . . . . . CHIPPING SPARROW
2. With few hairs, or none . . . . . FIELD SPARROW
BB. Over 2 inches inside diameter
1. With many or few hairs in lining . . . . . SONG SPARROW
2. No hairs, a few leaves . . . . . YELLOW-BREASTED CHAT



TYPES OF NESTS OF COMMON BIRDS

Robin
Catbird
Redstart and Yellow Warbler
(Note thicker rim of Warbler's nest)

Baltimore Oriole
Goldfinch
Red-eyed Vireo

Redstart
Yellow Warbler
Chipping Sparrow

XI. Spherical Nests of Grasses, Bark, or Fibers:
A. On the ground very thickly lined with soft grasses.....Meadow Mouse
AA. In bushes or vines, usually on some old bird's nest and lined with cotton or wool.....Deer Mouse
AAA. In trees or about buildings
1. Of bark and fibers, no lining, usually some leaves or sticks, often on an old Crow's nest.....Squirrel
2. Of grasses lined with feathers.....House Sparrow

FROM YOUNG OBSERVERS

A TIMELY RESCUE

Heavy snow had covered all the usual feeding-grounds of the birds. My friend put some crumbs on her window-sill. These were soon found by the English Sparrows, who feasted on them gladly.

One day, among the guests appeared a Song Sparrow. Further investigation showed where he was roosting—under a barberry hedge piled with snow.

Every morning he breakfasted on the crumbs and just before dusk he would come regularly for supper, then enter a little hole in the snow-bank, and creep into his bed.

This continued for about three weeks, when another snowfall came and for three days my friend missed her little protégé. On the third morning, January 31, the temperature at zero, it was found that the entrance to the retreat in the hedge was filled with snow. A search followed, and near the underpinning of the house, under some shrubbery, lay what appeared to be a dead Sparrow. On taking him up it was found that his heart was still beating. The little creature was taken into the house, where he revived.

He is now a petted member of the household, and, no doubt, will repay his benefactors next spring with his cheery songs.

I should mention that a family of Song Sparrows was raised in this barberry hedge last spring. Can it be that this one accidentally got left behind when the rest of his family took their southern flight?—Cassandana Thayer, *Quincy, Mass.*

[Every severe winter many birds die from starvation and it is seldom that individuals meet with such a timely rescue as did this little Song Sparrow. But by feeding the birds regularly during the winter and never letting the supply of food fail, many catastrophes are averted.—A. A. A.]

THE NEST OF THE LOUISIANA WATER-THRUSH

The male and female Water Thrush are alike in coloring. The general color is brown, with the upper parts of olive-brown and the under parts of buff with dark brown streaks.

Our bird class watched this nest from the time it was first made, until the baby birds left the nest. Whenever a person watched it or even passed by it, the parent birds would fly around, uttering sharp *chirps*. One day they seemed to be more disturbed than usual and it was discovered that one little bird had

left the nest. Before night two more had gone, and the nest was left with two eggs in it. The eggs were bluish white with cinnamon spots more numerous at the larger end where it was a little over one-half inch in diameter.

In a few days the deserted nest was examined in its original place and later it was collected and examined more closely. It was found on a bank about 7½ feet from the water. A sandy beach sloped up from the water about 3½ feet. Then there was an abrupt perpendicular bank which rose the rest of the 4 feet. The nest was snugly tucked away on a shelf of earth. The roof of this little home was a mossy spot, held by the roots of an old oak stump, with Canada mayflowers growing here and there.

The nest was 8 inches back from the edge of the hood, and from outer edge to edge it was 5 inches in diameter. The inside diameter was 3 inches and it was 1¾ inches deep.

When the nest was taken out it left a little hollow in the sand. The nest itself was composed of two distinct parts, an upper and a lower. To show how many trips were made just for the building of one nest, we counted every piece. The foundation was composed of 103 leaves, 46 rootlets, 49 pieces of moss, 15 twigs, 1 piece of bark, and 87 pine needles.

The upper part or lining of the nest was made of finer things, of which 9 were horse-hairs, 29 pieces of moss, 122 rootlets, 222 pine needles and 58 grass stems, besides many other small pieces. All these things were woven neatly together to make a pretty little round nest.

All this shows how much birds have to work to make a home, and then often they are frightened away by people handling the eggs or squirrels sucking the eggs, or Blue Jays eating the little birds. However, these three baby Water Thrushes flew away without any of those disturbances.—LARCH CAMPBELL (age, 15 years), *The "Dells" of the Wisconsin River*.

[This is an interesting study of a bird's nest and one that anyone can duplicate with one of the winter nests. Of course, each piece of material does not mean a separate trip, as many are often brought at one time, but, nevertheless, each piece is usually selected with discrimination on the bird's part.—A. A. A.]

THE STORY OF A BIRD

Once I went to the orchard with my aunt to call on a lady. In a corner by the steps was a barberry bush and the lady told me to look in it. I looked in and saw a Catbird's nest with four little Catbirds. The mother was not there so I sat on the steps to wait. Soon she came with her mouth full of food for the young birds. When they were fed she went away and the father bird came with food, too, but when he saw me he flew away and so I went up on the porch and the mother came back and fed the young constantly while we talked on the porch.—MARJORIE E. HOFFMAN (age, 7 years).

[A bird's nest near the home is a great asset and Marjorie has the right idea about watching it.—A. A. A.]

The Audubon Societies

EXECUTIVE DEPARTMENT

Edited by T. GILBERT PEARSON, President

Address all correspondence, and send all remittances, for dues and contributions, to the National Association of Audubon Societies, 1974 Broadway, New York City. Telephone, Columbus 7327

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Any person, club, school or company in sympathy with the objects of this Association may become a member of it, and all are welcome.

Classes of Membership in the National Association of Audubon Societies for the Protection of Wild Birds and Animals:

$5 annually pays for a Sustaining Membership
$100 paid at one time constitutes a Life Membership
$1,000 constitutes a person a Patron
$5,000 constitutes a person a Founder
$25,000 constitutes a person a Benefactor

FORM OF BEQUEST:—I do hereby give and bequeath to the National Association of Audubon Societies for the Protection of Wild Birds and Animals (Incorporated), of the City of New York.

ANNUAL MEETING

The National Association of Audubon Societies held its sixteenth annual meeting in the American Museum of Natural History, New York City, on October 25 and 26, 1920.

At 8 o'clock on the first evening, a general public meeting was held in the large assembly hall. The principal speakers were Norman McClintock, of Pittsburgh, who showed moving pictures made by him the past summer on the Association's large bird reservation at Orange Lake, Fla. These included many close-up, intimate studies of the home-life of Gallinules, Least Bitterns, Egrets, and other water-birds that assemble there to rear their young. Robert Cushman Murphy, of the Brooklyn Museum of Arts and Sciences, told the story of the vast bird colonies that make the great guano deposits on some of the barren islands off the coast of Peru. His address was illustrated with stereopticon slides and moving pictures which he had made showing the marvelous bird-life of these islands.

The Secretary of the Association gave a brief résumé of the Association's work the past year and spoke of the problems now confronting wild-life conservationists.

Dr. F. A. Lucas, Acting President, presided at the meeting.

At 10 o'clock, on the morning of October 26, the business session opened in the Museum with Dr. T. S. Palmer, First Vice-President, in the chair. In addition to the annual reports of the Secretary, Treasurer, Field Agents, and representatives of affiliated organizations, four members of the Board of Directors were elected. Dr. F. A. Lucas and T. Gilbert Pearson, whose terms had expired, were reëlected. In place of Ernest Harold Baynes, whose term expired, John Dryden Kuser, of Bernardsville, N. J., was elected. To fill the unexpired term of William Dutcher, deceased, Miss Heloise Meyer, of Lenox, Mass., was appointed.

At 2 o'clock in the afternoon, Edward H. Forbush presided at the Educational Conference. Here talks were given and discussions entered into by Winthrop Packard, Mrs. Mary S. Sage, Miss Frances A. Hurd, Herbert K. Job, and other representatives of the Association, as well as by Prof. H. L. Madison, of the Rhode Island Audubon Society; Mrs. E. O. Marshall, of the Massachusetts State Grange Bird Protection Committee; Dr. G. Clyde Fisher and

Walden DeWitt Miller of the American Museum of Natural History, and a number of others.

At the meeting of the Board of Directors, also held in the afternoon, the following officers were elected: President, T. Gilbert Pearson; First Vice-President, Dr. T. S. Palmer; Second Vice-President, Dr. F. A. Lucas; Secretary, William P. Wharton; and Treasurer, Dr. Jonathan Dwight.

PRESIDENT-ELECT HARDING FOR BIRD-PROTECTION

It will be a source of great satisfaction to all interested in the conservation of wild life in this country to learn that Warren G. Harding is wide-awake to the needs of conservation in this country and is in thorough sympathy with the best efforts for the perpetuation of our wild life and National Parks.

At the meeting of the members of the National Association on October 26 a resolution was passed instructing the Secretary to send the following telegram to Warren G. Harding and James M. Cox, the leading candidates for President of the United States:

"The National Association of Audubon Societies now assembled in convention in this city, and representing two million bird-lovers and sportsmen, earnestly desires to learn whether, if elected President of the United States, your policy would be to guard the National Parks and Bird Reservations against any commercial attempts that may be made to exploit them; and whether you favor the enforcement of our Treaty with Canada for the protection of the valuable migratory birds."

At once upon receipt of the message the following telegram was sent from Marion, Ohio:

"T. Gilbert Pearson,
1974 Broadway, New York.
"Thank you for your telegram of October 26. If you care to do so you may use the following message and release to the press. 'I am fully in favor of a policy which will guard the integrity of our National Parks and our Bird Reservations. I favor the enforcement of our Treaty with Canada for the protection of valuable migratory birds. Please accept my greetings to your Association.' "

[Signed] Warren G. Harding.

Two days later the following message was received from Mr. Cox's office in Columbus, Ohio:

"Your telegram received Governor's absence. Can assure you Governor Cox if elected would carefully guard the National Parks and Bird Reservations. Not knowing provisions of Canadian Treaty unable to advise Governor's stand.

[Signed] W. S. Pealer,
Executive Clerk."

Remembering the efforts at the last session of Congress to permit private interests to exploit the Yellowstone National Park and considering further the assaults made on the integrity of certain United States Bird Reservations and the lamentable need of funds to enforce the Migratory Bird Treaty, it is with the utmost pleasure and satisfaction we learn that our new representative in the White House has voluntarily pledged to use his great powers for the benefit of these great National interests.

A NATIONAL HUNTING LICENSE

It is estimated that there are 7,000,000 hunters in the United States. These figures are based on data collected by the United States Biological Survey for the year 1919. According to their figures, 3,600,000 state hunting licenses were issued that year. They estimate that at least 3,500,000 more hunters were exempt under the state game laws. This was because in many states hunting licenses are not required of residents or land-owners. Hunters actually paid into various state treasuries about $4,500,000, which has enabled the states to run their game-protective departments and employ, either by means of fees or by salaries, about 2,600 game wardens.

At the present time the Congressional appropriation for the Biological Survey for enforcing the Migratory Bird Treaty Act amounts to only $142,500, a sum inadequate to enforce the Federal bird laws. In order to provide such a fund a suggestion has been made that all those who hunt migratory birds should be required to take out a United States hunting license, costing, perhaps, 50 cents. It is thought that the revenue from this source would yield between one and two million dollars. Much thought has been given to this proposition and it appears to be favored by all those who are most familiar with conservation matters. It is earnestly to be hoped that some such law may be enacted at the coming session of Congress. If funds anything like the amount estimated to be derived from this source should be realized, a portion could well be spent for the establishment and maintenance of bird sanctuaries.

THUMBS DOWN FOR MALHEUR LAKE

On election day, November 2, 1920, the people of Oregon voted down the referendum for declaring Malheur Lake the Roosevelt Bird Refuge. The bill against which the majority of the Oregon votes was cast was for the purpose of deeding to the United States Government any claim that the state of Oregon might hold in the title of Malheur Lake. Until recently it was supposed that the Lake was Government property without question, and on August 18, 1908, Theodore Roosevelt, then President of the United States, ordered it to be proclaimed as one of the United States Bird Reservations. Since that time, under the care of the Biological Survey, it has been guarded and protected as such.

Malheur Lake is undoubtedly the most important breeding-place for wild fowl within the borders of our country. It is a shallow lake with reed-covered margins and islands. It occupies an area of about 47,000 acres and in its vast expanse there accumulate every summer hundreds of thousands of Ducks, Geese, Grebes, White Pelicans, Terns, Cormorants, and other water-birds that come here for the purpose of raising their young. In the spring and autumn the lake swarms with innumerable flocks of migrating wild fowl.

The fight for the Roosevelt Bird Refuge Bill was led by the Oregon State Audubon Society officials, William L. Finley as its President being the active head. A Roosevelt Bird Refuge Association had been organized and under this title the campaign was conducted. A wide publicity effort was carried forward. The National Association of Audubon Societies, as a result of the keen interest of one of its friends, was able to contribute between two and three thousand dollars toward expenses. The rest of the expense was borne by friends of the measure in Oregon. Those who favored the bill contended that this most important breeding-place in Oregon should be preserved for the benefit of the wild life; and that if the lake were drained its alkaline soil would not be found productive for general agricultural purposes. Those opposing the bill claimed that, if drained, the area of the lake bottom could be sold for hundreds of thousands of dollars to enrich the school fund, and that the whole idea of preserving it as a refuge was simply a matter of sentiment which, from their standpoint, was entirely unnecessary. Naturally the opposition was led by those who plan to reap benefit in dollars and cents by the destruction of the reservation.

It is as much the case today as it was ten years ago that eternal vigilance is the price that must be paid if our American wild life is to be preserved.

J. H. Cunningham, a prominent engineer of Portland, Ore., was one of the many who was strongly in favor of the Roosevelt Bird Refuge Bill. His comments, which appeared in the *Oregonian* of October 31, 1920, are pertinent as to the attitude assumed by many of its friends:

"The average man is more or less selfish to the extent of wanting something con-

verted into dollars and cents, some of which may be annexed by himself. The engineer, and more especially the irrigation engineer, hates to see land lying idle that could be irrigated through employing him to do the job; the conservation of wild life or the picturesque beauties of nature mean nothing to his unimaginative brain compared to the allurements of the almighty dollar when employed to turn a lake or waterfall into a truck garden or shoe factory. Being an engineer himself, the writer knows something about him. Waterfalls are my special prey. I hardly ever look at one without making a mental calculation of how many horse-power or kilowatts it would turn out. Then again the thought occurs, if once developed and used to turn a lot of wheels in an ugly powerhouse, its beauty is forever destroyed, and what a prosy old world this would be if every bit of wild life and primitive wilderness ceased to exist! Why is it that the normal man (and woman) likes to put on old clothes and get out into the wilderness, away from all artificial things, where nature has not been defiled by the destroying hand of man?

"If it is proper to destroy all natural wonders for the sake of a few more acres of grain, why is it not right, as Mr. Finley suggests, to plow up all the parks and lawns and plant them in cabbage or corn, which, to some people, are far more beautiful than any monarch of the forest or gem-like lake in a dusty desert? In fact, some people like only the kind of scenery they can eat.

"There are millions of acres of good land lying between the Mississippi River and the Pacific Ocean that can be irrigated and cultivated without destroying some natural wonder.

"Again, this cry of robbing the school fund is mostly political buncombe. No child is going to suffer for the want of education merely because these particular lands are not sold to a few farmers.

"It is also stated that the creation of this bird reserve will tend to discourage development of roads and railway construction in Harney County. However, it is probable that the bird reserve would encourage the building of roads, since the autoist is a powerful factor in the matter, and any novel attraction to the tourist brings dollars into the state.

"The writer is not a member of the Audubon Society, but is one of the 'we's' so facetiously referred to by Mr. Bennett, for he would rather see a natural wonder developed to the fullest extent with a good road, inviting the tourist to the Malheur Bird Reserve, and the conservation of our fast disappearing game birds, than to see it laid out in geometrical rectangles of hay or grain, which can be produced more abundantly on land in other parts of the state.

"If the people wish to exterminate all wild life, why not abolish game laws entirely, and do the thing at one fell swoop? Two or three years would be enough with the assistance of the game hog.

"But I can well understand the attitude of the local members of engineering societies in opposing this bill. To many engineers the most beautiful thing on earth is a mass of concrete and steel replacing one of God's masterpieces of nature. He hies himself to the wilderness (at so much per), sets up his transit, cuts down trees a thousand years old, blows up rocks and scares all the game out of the country, and down on Malheur Lake probably cusses the ducks and geese for sitting up late at night and keeping him awake."

Annual Report of the National Association of Audubon Societies for 1920

REPORT OF T. GILBERT PEARSON, SECRETARY

INTRODUCTION

One of the most significant occurrences in the field of bird-protection the past year was the decision of the United States Supreme Court upholding the constitutionality of the Migratory Bird Treaty Act. This was the final scene in the drama which began in 1904 when George Shiras, 3d, introduced in Congress the first bill intended to place under federal protection the fortunes of North America's migratory birds.

In order that history may be recorded correctly I want to recall to your attention certain facts that may have been forgotten or possibly not ever known to some of our members. The bird bill of Shiras contemplated the protection of migratory game-birds only. The President of this Association urged its author to change the wording so as to include all migratory birds. This bill did not become a law, but its principles were embodied in the bird bill introduced years later. This proposed measure was given a committee hearing in the spring of 1912. The records of that day will show that of all the thirty or more organizations present and filing opinions, this Association alone voiced dissatisfaction with the bill as it stood and urged that it be amended to extend protection to *all* migratory birds. The suggestion was adopted, and the bill as passed contained this provision. Having gained Congressional sanction in this form, it was later embodied in the provision of the Migratory Bird Treaty Act. The great importance of this feature of the Treaty was distinctly and strongly commented upon by Justice Holmes who rendered the Supreme Court decision on April 19, 1920. The fact that migratory non-game birds are protected in Canada and the United States by the Treaty is a direct result of the policies and activities of the National Association of Audubon Societies, and this fact should never be forgotten.

The past year has seen further efforts to open conventions with the republics to the south of us with a view of securing protection for our birds that migrate to those countries. The wisdom, or perhaps I had better say the urgency, for such a course does not yet lie clearly before us, but the matter is under advisement and the United States Government has sent a naturalist to South America to study the situation with the object of arriving at a more intelligent understanding as to the benefits to be derived should such an arrangement be entered into.

Of late, vicious attacks on the National Parks have been made in Congress by those who would grant favors to western land interests at the expense of

our country's richest nature sanctuaries. A bill to allow certain exploitations of the Yellowstone National Park came very near of passage, and another, intended to place the authority for granting water-power rights of the National Parks in the hands of three members of the President's Cabinet, actually passed both Houses of Congress, and President Wilson, in spite of an avalanche of letters and telegrams, signed this measure and it became a law. This statute should most certainly be repealed at the coming session of Congress. Much effort undoubtedly will be required to defeat other Congressional measures for exploitation of National Parks. Attempts to secure such adverse legislation now seem most certain.

A few months ago a United States Treasury Department official, in recognition of this Association's many years of effort to suppress the traffic in bird's plumage, presented us with a large assortment of bird feathers that had been seized by the customs officers while being smuggled into this country. These goods, at jobbers' prices, were valued at more than $20,000. Exhibits, including Birds-of-Paradise feathers, both raw and dyed, groups of Aigrette sprays, plumes of the Goura, etc., were assembled and presented by the Association to forty-five museums, distributed through 27 states. These collections are now on exhibition at the following places:

Southwest Museum, Los Angeles, Calif.
Museum of Louisiana State University, Baton Rouge.
State Museum, Atlanta, Ga.
State Museum, Augusta, Maine.
Museum of Hamline University, St. Paul, Minn.
Museum of Coe College, Cedar Rapids, Iowa.
Public School Museum, Battle Creek, Mich.
Washington University School of Medicine, St. Louis, Mo.
Arizona Museum, Tucson, Ariz.
University of Rochester, Rochester, N. Y.
Museum of History, Science and Art, Los Angeles, Calif.
Museum of University of Chicago, Chicago, Ills.
Museum, Vassar College, Poughkeepsie, N. Y.
Kent Scientific Museum, Grand Rapids, Mich.
Museum of Zoölogy, University of Michigan, Ann Arbor.
Museum, Maryland Academy of Sciences, Baltimore.
The Joseph Moore Museum, Richmond, Ind.
Indiana State Department of Conservation, Indianapolis.
Zoölogical Museum, Wellesley College, Wellesley, Mass.
Peabody Museum, Salem, Mass.
Museum, State Normal School, Emporia, Kans.
Museum, State Normal School, Winona, Minn.
Creighton University, Omaha, Neb.
Louisville Free Public Library, Louisville, Ky.
Agricultural College, Storrs, Conn.
Barnum Museum, Tufts College, Mass.
State Museum, Trenton, N. J.
Museum, University of Nebraska, Lincoln.
Alabama Museum of Natural History, University, Ala.

State Museum, Gainesville, Fla.
Museum of Natural History, Springfield, Mass.
Lake Forest College, Lake Forest, Ills.
Louisiana State Museum, New Orleans, La.
Museum, University of Minnesota, Minneapolis.
Worcester Natural History Society, Worcester, Mass.
Dartmouth College, Hanover, N. H.
Museum, Guilford College, N. C.
Museum, University of Colorado, Boulder.
Museum of Natural History, Urbana, Ills.
Museum, Hendrix College, Conway, Ark.
Society of Natural History, Wilmington, Del.
Office of Massachusetts Audubon Society, Boston.
Birdcraft Sanctuary, Fairfield, Conn.
Museum and Library, Oregon Audubon Society, Portland.
Brooklyn Museum of Arts and Sciences, Brooklyn, N. Y.

In January, 1919, through the columns of BIRD-LORE this Association first advised the public of the Eagle Bounty Law in operation in Alaska. Since then we have continued to bulletin, from time to time, the results of this measure. The last report from our representative in Alaska shows the official territorial records and reveals that bounties had already been paid on the feet of 8,356 Eagles. Nor does this tell the entire story of the appalling slaughter of the American Eagle, for it should be borne in mind that to collect the 50 cents bounty it is necessary to bring in the feet to some territorial official and pay a fee for an affidavit to accompany them before the bounty can be collected. Men who secure only one or two Eagles at a time, or who shoot their birds a very long distance from the place where the bounty is paid, of course never report their killings. Furthermore, many hundreds of Eagles undoubtedly are wounded by gun-fire and escape in the wilderness to die later from their injuries.

We have filed the most vigorous protests against this law and for a time it appeared as though there were prospects of getting it repealed by the territorial legislature, but the latest reports are that a great majority of people, including Governor Riggs, have such large ideas of the destructiveness of this bird to fish and game that the Bounty Law is in no immediate danger.

WILLIAM DUTCHER

By the death of the President of this Association, William Dutcher, on July 1, 1920, there passed away the leading pioneer in the cause of American bird-protection. He was responsible for the establishment of this Association, and from the time of its incorporation, in January, 1905, until he was stricken with paralysis, in October, 1910, its growth and welfare were matters of ever-abiding concern in his mind. Although helpless for ten years, and deprived utterly of the power of speech or the ability to write, he never lost interest in reading or hearing of what was being accomplished for the cause that lay

so near his heart. The memory of his name and his work will never fade as long as men take note of the feathered guardians of the field, or lift their heads to listen to the wild, sweet music in the trees.

AUDUBON WARDEN WORK

This Association's system of employing special guards to protect important breeding-places of water-birds cannot for one moment be relaxed. This is one expense that has to be met every summer, no matter how limited the funds may be or how strong the calls come for expenditures in other directions. Sad experience has shown that, especially in the case of the nesting Egrets, a colony left unguarded means a colony in which the birds are sure to be shot.

During the past year we employed thirty-seven wardens. Each man had charge of from one to three, or in some cases more, breeding colonies. The distribution of the wardens was as follows: New York, 1; Massachusetts, 1; Virginia, 1; Georgia, 1; North Carolina, 1; Mississippi, 1; South Carolina, 2; Michigan, 2; Louisiana, 3; Florida, 11; and Maine, 13.

The nesting season of 1920 was a fairly good one in the guarded colonies. The loss of life from natural causes, such as high tides and storms, was not greater than on an average normal year, and no raids of consequence were carried out by feather hunters.

During the spring the United States Biological Survey detailed special agents to operate in Florida in order to break up, as far as possible, the illegal traffic in aigrettes. Your Secretary had supplied the Chief of the Biological Survey with a long list of names of people who had been reported to be engaged either in the killing of birds or shipping of plumes in that state. We were informed that this list would be made a basis for the operations of the Government's agents. To assist in carrying on this work the National Association appropriated $1,600 for the Survey's uses. A large amount of patrolling was done by these wardens in South Florida with much beneficial attending publicity. Also some violators of the law were apprehended and fined; notably a man named Mackenson of Kissimmee. For twelve years the National Association had been receiving reports that this man was supposed to be engaged in the business of buying and shipping aigrettes, but it was only the past year, and by the Government's assistance, that he was finally brought to the bar of justice.

We have no Audubon wardens located in New York City, although we could use one or more to most excellent advantage. Members of the Association and others often report violations of the bird and game laws by letter or telephone. These reports we at once place in the hands of the state game warden department of the state from which the complaints were received, and many prosecutions have resulted.

FIELD AGENTS

The Field Agents heretofore employed of recent years have been continued. Through lectures, published articles, correspondence, and personal work, this body of men and women are annually performing services of great value to the cause of wild-life protection.

E. H. Forbush, Field Agent for New England, is one of the busiest men in Massachusetts, and his monthly communications on bird-migration and bird-protection are matters of household discussion in that state. His public lectures have continued with great frequency the past year.

Among the Field Agents' reports that will be heard today, the one from Winthrop Packard will show how diversified a man's work may be when engaged in Audubon Society undertakings. His office and field duties are numerous and have been splendidly discharged.

William L. Finley, of Portland, Ore., lecturer and agent for the Pacific Coast States, has been leading the fight made by the Oregon Audubon Society and the National Association to secure the passage by referendum of a bill which it is hoped will insure the perpetuity of Malheur Lake as a United States Bird Reservation. Mr. Finley made a most successful lecture trip through the eastern states the past winter, and during the summer he and Mrs. Finley have been engaged in making additional moving pictures. They were with your Secretary for a time on the coast of Texas in May, from which point they left to continue their field-work in the Yellowstone Park.

Mrs. Mary S. Sage, who returned to the field staff of the Association in October, 1919, has been engaged most of the year in lecture and organization work on Long Island, where her efforts are made possible by the coöperative arrangement existing between the Long Island Bird Club and the National Association.

Herbert K. Job, in charge of the Department of Applied Ornithology, has conducted another successful session of his Summer School of Bird Study at Amston, Conn. Hundreds of visitors continue to flock to the Association's Experimental Farm at this point. Wild-fowl, Ring-necked Pheasants, and other birds being propagated there have had a successful season. The game-birds are in direct charge of Keeper Calvin McPhail and under the general direction of Mr. Job.

Arthur H. Norton, of Portland, Maine, reports much correspondence and other work occasioned by the rapidly growing interest in bird-protection in Maine. As a guest of the State Game Commission, he was able to make an informing and very valuable trip of inspection to many of our guarded bird colonies along the coast of his state.

Miss Frances A. Hurd has spent the greater part of her time this year in Connecticut where she has been engaged chiefly in lecturing in schools, organizing Junior Audubon Classes, and conducting other educational activities.

The Association helped employ three summer school instructors in bird-study this past season.

Mr. A. C. Webb, of Nashville, President of the Tennessee Ornithological Society, was employed to give a course in bird-study at the Peabody Normal College located at Nashville.

Miss Alice L. Prichard, Supervisor of Primary Teachers of Savannah, gave a three-weeks' course in bird-study at the University of Georgia, having an enrollment of thirty-six students.

A similar course was offered at the University of Colorado by Miss Edna L. Johnson of the University. This included field-work and laboratory lectures. Her class numbered fourteen students.

JUNIOR AUDUBON SOCIETIES

All previous records in the organization of Junior Audubon Classes were broken the past year. Early in the season teachers began to send in the children's fees in larger numbers than usual. Before the spring had far advanced the 200,000 sets of literature, bird pictures, and Audubon buttons prepared for the year's work became exhausted. Reports from newly organized Junior Clubs continued to pour in by the dozen, by the score, and even by the hundred. Eighty thousand sets of leaflets and pictures left over from previous years were brought out of storage and were readily accepted by pupils and teachers in lieu of this year's material. By the middle of May all possible sources of supplies had been exhausted and regretfully we began returning to the disappointed children their 10-cent fees. They had been invited to join the Audubon Society and when they tried to do so the Audubon Society was unable to accept them. For some weeks following, one thousand children a day, on an average, were turned away. Your Secretary had seen this condition approaching and had earnestly sought to secure funds with which to print more leaflets but with small success. In this connection it should be borne in mind that it has always cost the Association about 20 cents to supply the necessary material to every Junior Member and that the child who seeks membership pays only 10 cents. Our ever-generous and unknown Benefactor again gave $20,000 to this cause the past year. With a total of $27,500 we were able to collect for the Junior work, we enrolled and provided supplies to 280,963 children in the United States and Canada. I regret to state that collections for the coming school year have not thus far been as good as last, and the prospects are now that little more than two-thirds as many children can be supplied this year as last. To those who may see this report and who seeing care for children and the birds, let me remind them that for every gift of $100 for this work about 1,000 children will be able to join the Audubon Society, wear its button, study its lessons, and learn many worth-while facts concerning the wild-bird life about them.

The following is a summary of the distribution of the Junior Audubon Classes formed in the various states during the school year ending June 1, 1920. The number of members enrolled in the classes in the various states is also given.

State	Classes	Members
Alabama	14	417
Alaska	1	82
Arizona	10	254
Arkansas	22	868
California	195	7,167
Colorado	116	4,680
Connecticut	514	16,254
Delaware	152	4,693
District of Columbia	7	278
Florida	15	702
Georgia	33	1,260
Idaho	31	1,107
Illinois	375	12,960
Indiana	209	6,716
Iowa	229	8,460
Kansas	68	2,099
Kentucky	42	1,503
Louisiana	12	363
Maine	49	1,502
Maryland	79	2,462
Massachusetts	822	25,240
Michigan	201	7,149
Minnesota	356	11,020
Mississippi	17	510
Missouri	82	3,322
Montana	41	1,376
Nebraska	113	3,651
Nevada	3	127
New Hampshire	72	2,089
New Jersey	440	15,492
New Mexico	5	368
New York	1,070	37,817
North Carolina	28	960
North Dakota	32	1,034
Ohio	825	24,120
Oklahoma	31	1,018
Oregon	91	3,815
Pennsylvania	675	25,037
Rhode Island	20	666
South Carolina	57	1,514
South Dakota	36	1,140
Tennessee	21	774
Texas	43	1,405
Utah	20	608
Vermont	29	1,124
Virginia	48	1,665
Washington	154	5,883

State	Classes	Members
West Virginia	67	2,019
Wisconsin	251	7,069
Wyoming	14	421
Canada	560	17,893
China	1	20
Totals	8,398	280,963

AFFILIATED ORGANIZATIONS

State and local Audubon Societies, bird clubs and natural history societies of various kinds, to the number of 129, are at the present time formally affiliated by membership with the National Association of Audubon Societies. Many of the organizations have made reports of their activities the past year and these will be published in connection with this report. In many cases the relationship between the National Association and the state and local workers has proved to be of the greatest mutual interest and profit. During the past year we have on a number of occasions been able to assist the efforts of various affiliated societies, and, on the other hand, some of them have been of great help to the Association's projects. Especially has this been true in reference to the National Association's plan of forming Junior Audubon Classes.

The Massachusetts Audubon Society, for example, appropriated $500 toward paying for the services of extra workers in the schools of Massachusetts. The Long Island Bird Club, under the leadership of Mrs. Edward Townsend, contributed $2,150 to enable the Association to employ Mrs. Mary S. Sage to give her entire time to lecturing in schools, organizing Junior Audubon Classes, and doing similar work on Long Island. The Hamilton (Ontario) Audubon Society went to work in the schools of Hamilton and organized 9,469 children into Junior Audubon Societies, collected their fees and forwarded the same to the New York office in exchange for literature and buttons. The New Jersey Audubon Society asked the privilege of assisting in Junior organization work in that state, and more than one-fifth of the Junior members enrolled in New Jersey came in as result of the activities of the New Jersey Audubon Society.

Following is a list of the organizations affiliated at the present time with the National Association:

STATE AUDUBON SOCIETIES

California Audubon Society
Colorado Audubon Society
Connecticut Audubon Society
District of Columbia Audubon Society
East Tennessee Audubon Society
Florida Audubon Society

Illinois Audubon Society
Maryland Audubon Society
Massachusetts Audubon Society
Missouri Audubon Society
New Hampshire Audubon Society
New Jersey Audubon Society
North Carolina Audubon Society
North Dakota Audubon Society
Ohio Audubon Society
Oregon Audubon Society
Pennsylvania Audubon Society
Rhode Island Audubon Society
Utah Audubon Society
West Tennessee Audubon Society
West Virginia Audubon Society

CLUBS AND OTHER ORGANIZATIONS

Audubon Association of the Pacific (Calif.)
Audubon Society of Irvington (N. Y.)
Bedford (N. Y.) Audubon Society
Bird Conservation Club (Maine)
Blair County (Pa.) Game, Fish and Forestry Association
British Columbia (Canada) Natural History Society
Brookline (Mass.) Bird Club
Brooklyn (N. Y.) Bird Lovers' Club
Buffalo (N. Y.) Audubon Society
Burrough Junior Audubon Society (Kingston, N. Y.)
Burroughs-Audubon Nature Study Club (Rochester, N. Y.)
Canandaigua (N. Y.) Bird Club
Carrollton (Ky.) Woman's Club
Cayuga (N. Y.) Bird Club
Chautauqua (N. Y.) Bird and Tree Club
Civic League (Mich.)
Cleveland (Ohio) Bird Lover's Association
Colorado Museum of Natural History
Cocoanut Grove (Fla.) Audubon Society
Community Bird Club (N. H.)
Crawfordsville (Ind.) Audubon and Nature Study Club
Cumberland County (Maine) Audubon Society
Danville (Illinois) Bird Club
Delta Duck Club (La.)
Detroit (Mich.) Audubon Society

Detroit (Mich.) Bird Protecting Club
Detroit (Mich.) Zoölogical Society
Doylestown (Pa.) Nature Club
DuBois (Pa.) Bird Club
Elgin (Ills.) Audubon Society
Elkader (Iowa) Audubon Society
Englewood (N. J.) Bird Club
Erasmus Hall Audubon Bird Club
Glenville, (W. Va.) Normal Bird Club
Greystone Park (N. J.) Bird Club
Groton (Mass.) Bird Club
Hamilton (Ont.) Bird Protection Society
Hardy Garden Club of Ruxton (Md.)
Hartford (Conn.) Bird Study Club
Iowa City (Iowa) Audubon Society
Irwin (Pa.) Audubon Society
Jackson (Mich.) Audubon Society
Kez-hi-kone Camp Fire Girls (Conn.)
Little Lake Club (La.)
Los Angeles (Calif.) Audubon Society
Manchester (Mass.) Woman's Club
Manitowoc County (Wis.) Fish and Game Protective Association
Meriden (Conn.) Bird Club
Meriden (N. H.) Bird Club
Miami (Fla.) Audubon Society
Millbrook (N. Y.) Garden Club
Minneapolis (Minn.) Audubon Society
Miss Hattie Audubon Society (Ky.)
Missoula (Mont.) Bird Club
Neighborhood Nature Club (Conn.)
Newark (N. J.) Bait and Fly-Casting Club
New Bedford (Mass.) Woman's Club
Newburyport (Mass.) Bird Club
New Century Club of Utica (N. Y.)
New Philadelphia (Ohio) Bird Club
New York Bird and Tree Club
Norristown (Pa.) Audubon Club
North East (Pa.) Nature Study Club
Oil City (Pa.) Audubon Club
Pasadena (Calif.) Audubon Society
Philergians (The)
Pilgrim Woman's Club (Mass.)
Province of Quebec Society for the Protection of Birds

Racine (Wis.) Bird Club
Read, Mark and Learn Club (R. I.)
Resolute Circle of the King's Daughters (Conn.)
Rhinebeck (N. Y.) Bird Club
Rockaway (N. Y.) Branch of National Audubon Society
Rumson (N. J.) Bird Club
Sagebrush and Pine Club (Wash.)
St. Louis (Mo.) Bird Club
St. Petersburg (Fla.) Audubon Society
Saratoga (N. Y.) Bird Club
Scituate (Mass.) Woman's Club
Scranton (Pa.) Bird Club
Seattle (Wash.) Audubon Society
Sewickley (Pa.) Audubon Society
Skaneateles (N. Y.) Audubon Society
Smithland (Iowa) Audubon Society
Societe Provencher d'Histoire Naturelle du Canada
South Bend (Ind.) Humane Society
South Haven (Mich.) Bird Club
Stanton Bird Club (Maine)
Staten Island (N. Y.) Bird Club
Sussex County (N. J.) Nature Study Club
Telegraph Boys Bird-House Club (Pa.)
Tuesday Sorosis Club (Mass.)
Ulster Garden Club (N. Y.)
Ulster (Pa.) Nature Club
Vassar Wake-Robin Club (N. Y.)
Vermont Bird Club
Vigo County (Ind.) Bird Club
Wadleigh General Organization (N. Y.)
Wallace (Idaho) Bird and Nature-Study Club
Washington (Ind.) Audubon Society
Washington State Federation of Women's Clubs
Waterbury (Conn.) Bird Club
Watertown (N. Y.) Bird Club
Wellesley (Mass.) College Bird Club
West Chester (Pa.) Bird Club
Williamstown (Mass.) Bird Club
Wisconsin Game Protective Association
Woman's Club (Seymour, Conn.)
Wyncote (Pa.) Bird Club
Wyoming Valley (Pa.) Audubon Society

MISCELLANEOUS DATA

Of new literature the most important issued during the year was Bulletin No. 4, 'Bird Study In Elementary Schools,' by Dr. Robert G. Leavitt. This is a publication of 44 pages besides cover, and illustrated with 13 half-tones from photographs. Educational Leaflets as follows were printed: No. 101, Ground Dove; No. 102, Yellow-bellied Sapsucker; and No. 103, Bronzed and Purple Grackle. In BIRD-LORE our Department has occupied 169 pages. Reprints of Educational Leaflets to the number of 2,962,000 have been published. Other circulars, blanks, and campaign literature amounted to 257,500 pieces, in addition to 225,000 letterheads and envelopes. For our Supply Department many stereopticon slides were made and 639 were sold at $1 each which we have tried to believe covered the cost of manufacture and handling. Additional moving pictures have been taken and our series of films have been sent out on numerous occasions. Many bird-books, charts, and field-glasses have been sold to interested members and friends.

FINANCES

During the year we had the pleasure of enrolling 212 Life Members at $100 each. Money received from this source augmented by a bequest of $952.50 from Charles H. Davis of Saginaw, Mich., together with a few gifts, totaled a sum of $22,404.15 which was added to the general Endowment Fund. The Sustaining Membership (fee $5 annually) has this year numbered 4,380. The total income for the year amounted to $153,253.25.

NOTICE TO MEMBERS

On account of the heavy increase in the cost of printing it has been decided by the Board of Directors to omit from the annual report this year a list of members and contributors to the Association. It is estimated that this will mean a saving of from $1,000 to $1,500. The Board feels that if the members and contributors realized this fact they would desire that this fund be spent directly for the cause of bird-protection. If any of those who have financially supported the work of the Association the past year desire to learn whether their contributions were received and credited, the Cashier's Department will be pleased to advise them upon receipt of request.

REPORTS OF FIELD AGENTS

REPORT OF EDWARD HOWE FORBUSH, FIELD AGENT FOR NEW ENGLAND

The growing interest in birds and their protection is evidenced by the increasing number of questions coming to your representative from many parts of New England regarding the utility of birds, the means of enforcing bird laws, the management of bird reservations, bird-day exercises, and the like.

During the year, more and more evidence has come in regarding the increase of Gulls and Terns on the coast of New England. Evidently, protection of these birds by the National Association on the Maine coast has resulted in so increasing the numbers of birds there that some of them have come southward seeking breeding-places along the coast of southern New England. The number of Herring Gulls summering along the coast of the three southern New England states is increasing. Herring Gulls bred, or attempted to breed, in at least three localities on the Massachusetts coast this year. In two of these cases they were successful. In the other, the islet on which they nested was almost washed away by a high storm-tide, which probably destroyed all the eggs or young. Arctic Terns, which as breeders had disappeared from southern New England for some years, are returning now in considerable numbers and breeding at several locations in Massachusetts. All the Terns have increased in numbers. The Least Tern, which was in a very precarious situation in New England a few years ago, has now increased so much that it is nesting, not only on islands, but on the coast of the mainland in small colonies. The increase of all these birds is due, not only to their protection on the Maine coast by the National Association of Audubon Societies, but also to special protection during the last three years by the Massachusetts authorities which has been very effective.

Your agent wishes particularly to call attention to the effective work for bird-protection and also the educational work inaugurated and persisted in by the Committee on Birds of the Massachusetts State Grange, Patrons of Husbandry. For years this Committee has been a strong working force for the protection of birds in Massachusetts. When it was first organized the slogan of its chairman was "Useful Birds Must Be Protected Wherever the American Flag Floats," and the Committee has worked consistently to that end, and has finally seen the fruition of its hopes in that direction through the treaty with Great Britain, under which the migratory and insectivorous birds of the United States and Canada became the wards of the two countries.

The Committee worked consistently to secure legislation in Massachusetts prohibiting spring shooting and to maintain the law once it became established on the statute books. It has maintained constant watch over bird legislation, but perhaps its most useful work has been educational. All the members of

the Committee, particularly the present chairman, Raymond J. Gregory, of Princeton, and the Secretary, Mrs. E. O. Marshall, of New Salem, have delivered very many illustrated talks on birds before Granges in different parts of the state. Messrs. Walter K. Putney, of Chelmsford, and Clayton E. Stone, of Lunenburg, have also assisted much in this work. Every year this Committee has celebrated bird-days with exercises particularly for the children. From time to time these exercises have taken place in different counties, until the state has been fairly well covered.

Some of these exercises have been attended by large numbers of people, and at some of them motion pictures of birds, obtained through the National Association of Audubon Societies, have been shown. Taken all in all, the work done by this Committee of the State Grange is one of the most important for the protection of birds ever undertaken among agricultural communities. This is a neglected field and should be more thoroughly tilled. Little has been done outside of New England to interest the members of the Grange in the protection of birds. We often hear it said that the farmers take no interest in the protection of birds, but there is a great latent interest in this subject among agriculturists which can best be developed by working through their own organizations. There should be a Committee for the protection of birds in the National Grange and in every State Grange in the United States. At the present time there are in this country 800,000 members in the Patrons of Husbandry. The National Association should cultivate this field.

REPORT OF WINTHROP PACKARD, FIELD AGENT FOR MASSACHUSETTS

An old English proverb says "It's dogged as does it," meaning, as Boston might translate it, "persistency pays." The work of spreading the gospel of bird-protection throughout the New England States had been doggedly persisted in by your agent in Massachusetts during the past year. Appeals to join the cause, sent out monthly to carefully selected lists, have yielded gratifyingly increased results, the actual cash returns for members and subscriptions being practically double those of the same period (October to October) for 1919. The same is true of the Junior Class returns, the number in these classes in Massachusetts for the year ending in June, 1920, being 25,240, as against 13,023 for the previous year. This is a record for Massachusetts, placing us high in the list of states at the end of the season, and the numbers coming in during the summer recess were such that we start the school year as leader of all states by a substantial majority. Your agent feels that much of the success in Junior work was due to the substantial subscription of $500 made to the National Association by the state society and used solely for promoting the Junior work in the state. It is very gratifying that this generosity of the Massachusetts Audubon Society should have shown such immediate results.

The work of presenting the needs of bird-protection and the best methods of accomplishing it has been carried on throughout the region by lectures, exhibitions, and through the columns of the press, as usual. Returns from the work, reckoned in dollars and in numbers, count and are easily understood. The greatest and best returns come in the increased value put on bird-life and the increased belief in our cause shown in all ways throughout the region.

The cordial and effective support of the New York office has, as always hitherto, been felt in all good work and is gratefully acknowledged.

REPORT OF WILLIAM L. FINLEY, FIELD AGENT FOR THE PACIFIC COAST STATES

The question of vital importance for the protection of wild birds on the Pacific Coast is whether Malheur Lake Reservation can be saved. Since the passing of Klamath Lake Reservation by the drying up of Lower Klamath Lake, bird-lovers have been wondering whether any of our natural lakes and surrounding marshes can be saved from the extreme commercialism of promoters.

Malheur Lake Reservation was created by special proclamation of Theodore Roosevelt on August 18, 1908. Since that time, land promoters and others in Oregon have raised the question, claiming that at the time the executive proclamation was issued, Malheur Lake belonged to the state of Oregon instead of the United States. For several years, promoters have been attempting to get authority through the State Land Board to drain Malheur Lake in order to sell the lake bed and surrounding alkali lands to farmers.

An effort was made at the last session of the Oregon legislature to pass a law ceding jurisdiction over Malheur Lake to the Government, but this failed. To settle this matter definitely, the Oregon Audubon Society, with the assistance of the National Association of Audubon Societies, have initiated a bill by securing the signatures of nearly fifteen thousand voters which places the measure on the ballot to be voted on by the people of the state. The bill is entitled "The Roosevelt Bird Refuge Measure" and the election occurs November 2.

The land promoters have the assistance of certain large land-owners and irrigationists in eastern Oregon who have raised the cry that this will ruin Harney County and stop all future development. They are profiting by the assistance of certain state officers who claim that there is enough Government-owned land in Oregon which is not subject to tax and this would increase that amount, and they also advance the plea that if the lake was drained, the land could be sold and this money materially enhance the state school fund. This is, of course, largely a fight against extreme commercialism that would destroy everything of beauty and sentiment.

Balanced against this is the plea of the lovers of the out-of-doors. With the

rapid settlement of our country and the drainage of marshes and lakes, vast nesting-places of wild flocks were destroyed and wild birds are disappearing. The wild birds belong to the people as a whole. They are an economic necessity to the nation as insect destroyers. They are protected by state and Federal laws, and also through our treaty with Canada. But birds cannot live without homes. Malheur Lake is without question the greatest wild-fowl nursery in the United States. It would be the greatest living memorial to the memory of Theodore Roosevelt. It would be better than a hundred marble shafts. It would be worth more to Oregon as a place unique in the natural history of North America. The draining of Malheur Lake will mean the practical extermination of certain species of birds in Oregon, such as the American Egret and the White-faced Glossy Ibis. Such a scheme, which would mean the blotting out of countless thousands of Oregon birds by the destruction of their feeding- and breeding-grounds, under the guise of adding to the state school fund, would be a criminal plot that the children of Oregon would never forget. It would be selling their birthright for a mess of pottage.

During February, March, and April, as your representative, I delivered a series of lectures through the eastern states, beginning at Denver, then going to Kansas City, St. Louis, Buffalo and other cities. These lectures were given for the University of Illinois, Buffalo Society of Natural Sciences, National Geographic Society, American Museum of Natural History, American Institute of New York City, Columbia University, University of Minnesota, and other colleges, as well as various Audubon Societies, sportsmen's organizations and clubs.

During the latter part of May and June, Mrs. Finley and I accompanied Mr. Pearson during a portion of his trip along the coast of Texas and secured a good series of motion pictures of the colonies in that region.

During July and August we made an extended trip through Yellowstone Park for the purpose of photographing and studying big game animals on the summer range. We visited the bird colonies on the islands in Yellowstone Lake and then went on south. With a pack outfit, we followed the upper Yellowstone to the south border and into Wyoming where we spent several days getting pictures of moose in the wide willow meadows of that region. We then trailed west along the park border over the Rocky Mountain Divide, across Big Game Ridge, where we saw the great numbers of elk that spend the winter in the Jackson Hole country. We followed down the headwaters of the Snake River to the south boundary ranger's station.

Returning from the Yellowstone, we spent three weeks exploring and taking motion pictures in the Hozomeen Mountains along the border of northern Washington and British Columbia. We had tried for several years to get pictures of mountain goats. This was the main object of our expedition. As usual, we failed because of their wildness and the rugged country where they lived. Some of the birds of the region, especially the Franklin's Grouse, or Fool Hen,

and the Sooty or Blue Grouse were very much unafraid of man and it was no trick to get close enough for good pictures.

Our last field trip of the summer was along the Oregon coast at Netarts Bay, near Three Arch Rocks Reservation, where we made a study of some of the migrating shore-birds and took motion pictures of them. As a total for the summer's work, we have exposed nearly twenty thousand feet of motion picture negative, which, with a large amount of negative taken previously, will be used for educational work, not only in this country, but in all parts of the world, under the auspices of the National Association of Audubon Societies.

REPORT OF EUGENE SWOPE, FIELD AGENT FOR OHIO

No progressive or retrogressive legislation affecting wild life in Ohio was enacted the past year, but newspaper rumor says that the State Game Commission intends attempting this winter to restore the Quail (*Colinus virginianus*) to the hunter. The Commission claims that since the Quail is a protected bird in Ohio, it (the Commission) cannot legally use funds for feeding these birds in the winter, and because it does not feed the birds the species is starving out.

Farmers, the closest neighbor to the Quail, claim the bird's numbers have greatly increased since there are no open seasons. Also that the farmers are the ones who *really, truly* look after the birds in the winter. This one thing your agent knows for a certainty: There is an ever-increasing number of farmers who take pride in their Quails, and who are becoming more and more alert and solicitous in their protection.

The result of the year's Junior work has been published in Bird-Lore and speaks for itself. It was a year of much concern as to what the outcome would be. It seemed that Massachusetts was going to be a hard one to beat. There is a constantly growing interest in bird-study in Ohio and an increasing public confidence in the Association as a dependable power on the side of bird-conservation. Your agent, as usual, lectured throughout the state and conducted much correspondence.

REPORT OF HERBERT K. JOB, DEPARTMENT OF APPLIED ORNITHOLOGY

The work of the sixth year of this Department has consisted increasingly in instruction through correspondence from all over the United States and Canada with interested people desiring help in their local problems of attracting or propagating wild birds. The bulletins of the Association on game-bird propagation prove continually useful, and are in constant demand. Public lectures of late have been more called for than for several years past, and have been given quite widely in eastern and middle districts. These were usually made an opportunity for personal conferences with people in the vicinity

interested in practical work with birds. Especial interest was developed in Maine, and tours were made, taking in a number of the principal cities, such as Augusta, Lewiston, Farmington, and Machias. Each year the Department has furnished a lecture in the course on game-breeding at Cornell University—this year on the breeding of the Ruffed Grouse. Another lecture was at the New York State College of Forestry at Syracuse University. The work at Amston, Conn., has been continued. The Summer School was successful, with a good company of students, mostly educators, including a captain in the Red Cross organization who desired to impart the course to tuberculosis patients and convalescents. Another student was a city minister who desired to pass on the knowledge to the Boy Scouts. One pupil, a business woman, active in Audubon work, said on leaving that it had been the happiest vacation experience of her life.

The research work proved interesting and instructive. The small birds nested abundantly, using many nesting-boxes. Ruffed Grouse made considerable increase, and young Pheasants, liberated last season, wintered and remained to breed all over the estate. About one thousand Pheasants were raised. This number would have been doubled but for an invasion of armies of the rose chafer, comparable to "the plagues of Egypt." These bugs are poisonous to all young birds, including domestic poultry. A few broods of Quail were raised, but the eggs were unusually few and infertile, perhaps owing to exhaustion from the preceding severe winter. The results with wild Ducks were especially interesting. Wood Ducks laid early and abundantly, beginning April 1, averaging over twenty eggs per pair, from which we raised a fine breeding-stock. A flock of Black Ducks was raised the third generation from the wild, which seem to have lost all the supposedly irradicable wildness of the species. Young Pintails and Redheads were raised from eggs laid in the enclosure. Black Ducks and a Redhead laid in elevated Wood Duck boxes, and both in the same nest, by way of novelty. A wild pair of Wood Ducks brought off a brood from one of our artificial boxes placed in a tree on the island in our lake. Much new detailed material of practical value has been gathered, which should be published as a new bulletin when financial conditions improve.

A series of new motion pictures of bird-life has been begun under auspices of the Chester-Outing pictures, in coöperation with this Association, which should help to further popularize interest in birds, give us publicity in new channels, and also bring in added funds. The first release is a story of a famous rookery of Night Herons in old New England.

REPORT OF MRS. MARY S. SAGE, SCHOOL AGENT FOR LONG ISLAND

During the year I have given 213 talks and lectures on Long Island, N. Y., reaching in all over 12,500 children. Many of the schools are not equipped with

a stereopticon and in these I use the Educational Leaflets for illustrations. The past winter was so severe I was not able to visit as many schools as planned, for little folks in the country do not get to the schools in stormy weather.

Many schools are so hidden away from the main thoroughfares I have to hunt for them, but it pays, as I am frequently the only visitor they have ever had and the enthusiasm is greater than in many places where there are outside interests. Some schools have only a few pupils, as low as 15, many times only 25 or 30 are found. I have to travel many miles to reach as many as I would in one city school. However, I am able to do that as the Long Island Bird Club furnished me a car which I have used since weather permitted, and am able to visit several places in one day, instead of one, thus saving time and energy, too. I had my first headquarters at Oyster Bay and visited schools within a radius of thirty miles.

During the winter I was in Hempstead and could not get so far afield on account of the storms. Later I located in Riverhead and was busy there until the schools closed in June. I returned to Oyster Bay at the request of one of the members who asked me to speak to some of the little folks there during the summer. This I did, as well as speaking in the Parish House. I have been as far as Orient on the north shore of Long Island and East Hampton on the south shore. I am planning to take the territory around Patchogue, where I was not able to go last winter.

I have spoken in Oyster Bay, Huntington, Manhasset, Roslyn, Riverhead, Greenport, Massapequa, Seaford, Malverne, Valley Stream, Westbury, Long Beach, Hicksville, Locust Valley, Southold, Northport, Mineola, Oceanside, and many small towns and hamlets not to be found on any railroad. I sometimes have to drive thirty to forty miles to find a tiny school hidden away on some side road. It is not hard to get into the schools, but is it hard to get away.

REPORT OF FRANCES A. HURD, SCHOOL SECRETARY FOR CONNECTICUT

Connecticut schools began early last fall to take advantage of the opportunity the National Association offers to Junior Audubon Classes, and both superintendents and teachers seconded the efforts of your agent throughout the state. The year's record greatly exceeds that of former years, 514 Junior Audubon Classes, having been organized with a membership of 16,254. The requests for public addresses have been frequent. Over 300 illustrated talks to about 35,000 pupils were given during the year. Letters from teachers and pupils show that a keener interest than ever is being taken in bird-study, more field-work is being done, and more accurate observations are made. One teacher wrote, "It is most gratifying to notice the increased interest and love for birds among children" and this from a locality where the work was greatly needed.

Another, "My children were so grateful to you for your talk of last week. They can hardly wait for you to send the leaflets and pins."

After a lecture in one of the city schools a delegation of five boys came up and after shaking hands and thanking me invited me to come to their rooms to see an exhibition of bird pictures they had drawn. They also showed, with great pride, three Audubon Bird Charts on the wall which they told me had been purchased with the dues they paid in their Current Topic Club. Later one of these boys said, "I have found out that the Audubon charts have helped our room wonderfully well, and you deserve credit and thanks for your fine lecture." In August the following appeal came from a sixth grade boy. "I have moved so I won't be in connection with the rest of my Audubon class. I will be all alone and won't know what to do. If you can give me a plan how to be in connection with them I shall be thankful."

Opportunities were given me to present our work at some of the teachers' conventions, parent-teacher associations, and normal school classes. An appeal to the foreigner to protect the birds, prepared by me in the form of a bulletin, was used by the State Board of Education in the evening schools of the state. While in Pennsylvania this summer it was gratifying to learn that a bit of work I did there last summer had resulted in the formation of several new Audubon Classes. During my stay I was asked to assist the Buck Hill Nature Club with an exhibit they had been invited to make at Franklin, Pa. Marked interest was displayed in our booth by adults and children and many were eager to join the Junior Audubon Society.

REPORT OF ARTHUR H. NORTON, FIELD AGENT FOR MAINE

The routine of furnishing information concerning the feeding, methods of attracting, and identification of birds has been taken care of as usual. Frequent talks on various subjects and various phases of these subjects have been made at different points in the state. Through correspondence, personal interviews, telephone messages, and otherwise, your agent has coöperated with officers and members of various clubs, as well as many individual workers. Through a peculiar combination of conditions a large natural feeding-ground for wild Ducks exists within the city limits of Portland. As the birds here are, of course, protected, it has become the winter home of several thousand Black Ducks. During the past winter the weather became very severe. Thick ice covered the waters of Casco Bay for many miles, shutting off entirely the food for Black Ducks from late January to February 10. About 3,000 Ducks assembled in their Portland sanctuary. Profiting by past experience, we effected an organization to handle the situation. Funds were provided and your local warden, George E. Cushman, assumed the duties of feeder of the Ducks over a period of three weeks. The flock was thus saved from starvation.

During the summer your agent made one of his periodic trips of inspection of many of the bird colonies on the coast of Maine that have for many years enjoyed the special protection afforded by the wardens of the National Association of Audubon Societies. Hon. Willis E. Parsons, Commissioner of Inland Fisheries and Game in the state of Maine, kindly coöperated in this undertaking by detailing Warden H. L. Spinney, of Bath, to take me in one of the state boats to such places as I desired to go. In the report which is now on file in the home office of the National Association I gave details of the very great increase in the breeding colonies of Herring Gulls and the healthy condition of the colonies of Terns and Black Guillemots. I was sorry to find that the destruction of Leach's Petrels by dogs and cats on their rookery islands continues to an alarming extent. Young Eider Ducks were seen, but I regret to say that it appears that after nearly twenty years of protection by the National Association these birds have not held their own on the coast of Maine.

REPORTS OF AFFILIATED STATE SOCIETIES AND BIRD CLUBS

REPORTS OF STATE SOCIETIES

Arizona.—Owing to illness in the family of the President of our Society, no public meetings were held last year. Our regular annual meeting was in April, at which time officers for the ensuing year were elected. Our Society took up a new line of work last year, namely, that of interesting school children in birds and bird-life. The school laws of Arizona have set aside April 9 to be known as "Bird Day" in the state. The Secretary of the Arizona Audubon Society gave five talks on birds in one primary school building, speaking to about 400 school children. In another building several talks were given to more than 300 school children, while in a grammar school two talks were given to about 120 young people. The children showed unusual interest in the subject. A number of teachers of our schools have become interested and have joined the state Society. It is hoped this will result in the near future in the organization in our schools of Junior Audubon Societies.—(Mrs.) HARRIET B. THORNBER, *Secretary.*

California.—On June 12, 1920, the California Audubon Society held its fourteenth annual meeting in Los Angeles. The year's work has been most gratifying. It shows general interest in bird-protection is on the increase and that activities given up during the war are again in full force. The usual number of Educational Leaflets have been distributed, in some cases whole counties being covered. Lecture-work has been carried on quite extensively, one set of slides being used in the southern part of the state by Mrs. George W. Turner, the other by Mrs. F. T. Bicknell. Other members of the Los Angeles Society have also been active with lecture-work. In the north, one of our directors, Dr. F. W. d'Evelyn, as President of the Audubon Association of the Pacific, is carrying forward the work there. In Sacramento, our Director C. M. Goethe, as President and organizer of the Nature-Study League, helped in getting the Nature Guide work carried on by the State Fish and Game Commission and the Federal Government at Tahoe last year, and Yosemite National Park, this year. Mr. Goethe also furnished Nature-Study Libraries.

In San Diego a new Audubon Society was organized, with Carroll DeWilton Scott, President. We wrote letters of protest to Washington against the draining of Lower Klamath Lake and the despoliation of Yellowstone Park. We took favorable action regarding the proposed Nelson Game Sanctuary bill, and asked for a Forestry Experimental Station in California to coöperate with the State University. The feature of monthly luncheons in Los Angeles was revived. On February 11 we had as our guest and speaker, John Burroughs. There were 135 present and others were turned away. The past winter many

rare bird visitants came freely into the village and visited our dooryards. May we not take some credit for this increase and familiarity of the birds?—(Mrs.) HARRIET W. MYERS, *Secretary*.

Connecticut.—The past year has been, for the Audubon Society of Connecticut, a memorable one. Six well-attended meetings of the Executive Committee have been held. Bird Charts have been loaned to 244 schools, libraries to 62 schools—the total circulation reported was 1,648. Twenty-five portfolios of bird pictures and many collections of postcards were loaned. Audubon lectures were used 54 times. The attendance reported was 4,389, and 21 lectures failed to report attendance. Acknowledgments have been received from towns and villages in all parts of the state, thus showing the widespread influence of the Audubon Society.

We have reconstructed many of our traveling libraries during the past year and have sent out a new lecture entitled "Birds and Trees." Another called "Berries for Birds" will soon be in readiness. These lectures are illustrated by colored slides and are most attractive and instructive. This work is with the children and young people. There is a growing interest among adults, also, as proved by our increased membership.

The warden reports an undiminished interest and attendance at the Museum that is very gratifying. A growing interest of the sportsmen in the study of the shore-birds in our Museum is noticeable. The warden also reports that there have been over 6,000 visitors at the Sanctuary during 1920, among them 29 classes of school children who also visited the Museum, as did 75 members of the Game Protective Association. Nine Wood Ducks visited the pond in our Sanctuary for a month this season. Black Ducks also have been frequent visitors. Careful records are being kept of the bird-life in the Sanctuary. A hundred and thirteen nests were found this season and 131 species of birds identified.

During the past year the Audubon Society of Connecticut has received a wonderful gift from the kind and generous friend who gave to it Birdcraft Sanctuary and Museum. This gift is a large sum of money as an endowment fund for the benefit of Birdcraft Sanctuary.—(Miss) CHARLOTTE A. LACEY, *Secretary*.

Florida.—Conditions in Florida have changed little since our last report. No legislative session has been held and thus nothing could be done to have the bird and game laws made more effective. With two or three notable exceptions, the county wardens have remained mere figureheads. The Federal wardens, however, have been active, especially in the pursuit of dealers in plumage, and have obtained the conviction of several important old offenders. Other important convictions were obtained by the Federal wardens, chiefly for illegal Dove-shooting, a species of murderous "sport" long indulged in by both residents

and tourists. Strong efforts will be made for a general revision and improvement of the game laws at the legislative session next spring, and the Society is working harmoniously with the better class of sportsmen of the state for the purpose. The Wild Life League, recently organized in Lee County, is making an effort to unite the conservative sportsmen of the state to stop the senseless murder of wild life that has been practically unchecked during the past six years, owing to inadequate means of enforcing the game laws. The Society has been fortunate in recently obtaining several municipal bird sanctuaries, which now number eight in the state. Also, through the efforts of the Society, the protection of nesting water-birds on the keys at Pass-a-grille has been made effective. Reports from the nesting-grounds of Herons and other water-birds in Lee County are very encouraging, and bird-life in the vicinity of Fort Meyers seems to have greatly increased during the year. The Society has begun an active campaign in the public schools which will be continued during the fall and winter by our new Field Secretary, Mrs. Byrd Spilman Dewey.—W. Scott Way, *Secretary.*

Illinois.—The activities of the Illinois Audubon Society for the year 1920 have been of a very modest character, but have been quite encouraging in that there have been new ideas brought into our plans that we hope will greatly enlarge the influence of the Society and bring it into closer touch with the entire state of Illinois, as well as the adjoining states of Indiana, Iowa, and Michigan.

March 20 and 27, well-attended lectures were given by Harry C. Oberholser and William L. Finley. The lectures have become a very welcome feature of each year's work, and the plans for 1921 for an open meeting of the membership to be given in early March, followed by three paid lectures, will be announced early in the year.

A zonal map of Illinois, dividing it into north, central and southern divisions, and having attached a list of birds to be found nesting in each division will soon be ready for distribution. The map is being prepared under the supervision of a well-known ornithologist and will be a valuable addition to the data for the state.

A definite plan is under way to have representatives of local bird organizations meet in some convenient city centrally located for a discussion of bird-conservation and education, such group meetings to be held in different sections of the state, the object being to have local secretaries appointed who shall report the activities of the different clubs to the state organization.

Miss Catherine A. Mitchell has been elected Secretary, taking the position vacated by the removal of Roy M. Langdon to the Pacific Coast.—Orpheus M. Schantz, *President.*

District of Columbia.—Our chief cause for encouragement the past year has been the work among the children. In the schools they made over 1,000 nesting-boxes, and our Society gave 35 copies of Reed's "Bird Book" to the makers of the best ones. More children attended our spring bird-study classes than ever before. These classes have been in charge of Mrs. Florence Merriam Bailey, with such fine instructors as Dr. T. S. Palmer, Prof. Oberholser, Dr. Bell, Miss M. T. Cook, Mr. Leo D. Miner, and others connected with the Biological Survey, as well as other members of the Society. These classes were followed by our usual six outings with a total attendance of 117 persons, who reported 133 varieties of birds.

At our annual meeting Dr. Paul Bartsch gave us a beautifully illustrated lecture on "Some of the Birds of the District and of the Florida Keys." January 28, hundreds of children listened with rapt attention to Charles Hutchins, of California. His lecture was repeated the next day at two other schools, one of which was for colored children. On March 20 we had a splendid audience to hear with pleasure and appreciation, as we always do, William L. Finley. We have coöperated with the National Association in some of its Federal legislation.—HELEN P. CHILDS, *Secretary*.

East Tennessee.—We had twenty-three accessions to our Society this year, due to our talking before literary societies and at our booth at the East Tennessee Division Fair. Mrs. Walter Barton devotes most of her time to securing reservation for birds. In the last two years she has secured 21,415 acres. Of these 7,950 are posted and we have requests quite often for posters. Dr. McDonald and Mrs. Barton attended the Farmers' Convention held at the University Farm where they aroused much interest among the farmers. We never fail to cast our influence on the side for bird-protection, and we send out such literature as we have on hand in answer to many requests.—(Miss) MAGNOLIA WOODWARD, *Secretary*.

Maryland.—After several years of inactivity, due to the demands of war work, two of the local Audubon Societies united on January 27, 1920, to form the Maryland Audubon Society, with Mrs. Baker Hull as President; Jesse L. Slingluff, Vice-President; Miss Margaretta Poe, Secretary; Miss Mina D. Starr, Assistant Secretary; Percy T. Blogg, Treasurer, and Mrs. Edward H. Bouton and Talbott Denmead, Chief Deputy of Conservation Commission, on the Executive Committee. In consultation with and aided in every way by T. Gilbert Pearson, executive head of the National Association of Audubon Societies, the organization was planned on as broad an educational basis as possible. To this end the Board of Governors included Dr. Jos. S. Ames, Johns Hopkins University; F. W. Besley, State Forester; J. Cookman Boyd, President of the Park Board; Robert Garrett, financier, Mrs. J. H. Latane, of Girl Scouts; Dr. Francis C. Nicholas, Curator, Maryland Academy of

Sciences; Ernest Race, head of department of nature-study at State Normal School; John Henry Skeen, of Boy Scouts; Miss Mary B. Stuart, Secretary of the Children's Playground Association; and Dr. Henry West, Superintendent of Public Schools of Baltimore.

The Conservation Commission of Maryland has offered for our use all its game sanctuaries, including the 400-acre water-shed at Loch Raven, which we will supply with nesting-boxes during the coming season. Our campaign for membership met with great response, and before we parted for the summer we had held three well-attended meetings at the Maryland Academy of Sciences, whose splendid quarters are placed at our disposal. Three sanctuaries were started in different suburbs and plans laid for intensive work with the Boy Scouts, the Children's Playground Association, and the manual training classes in public schools this autumn. A course of lectures by C. S. Braubaugh will be part of our winter's work.—(Mrs.) Louise Hull, *President.*

Massachusetts.—More than two thousand people visited our Bird Sanctuary at Sharon between January 1 and September 1 this year, most of them going away thoroughly imbued with the idea of planning for bird sanctuaries in their communities. As a concrete instance of the value of the ideas thus secured, may be cited the Brockton Audubon Society's beautiful 23-acre sanctuary just established in that city by a Society scarcely a year old. The Society itself is a direct result of the missionary work of the state organization. Also, the proposed Plum Island Reservation, when completed, will provide for shore- and marsh-birds. Its beach-line is about 5 miles in extent and the sand-dune territory is a ½ mile by 2½ miles in area. The Society's Annual Bird Day Outdoor Meet was held at the Sharon Sanctuary, many hundreds participating in the all-day outing.

The year has been all too short for the varied activities of the Society's staff. The publication and distribution of bird-charts, calendars, leaflets, bird-books, and literature of all description has been carried on with increased effect. Our traveling libraries of bird-books have been revised, rebound, and improved, and are going steadily to small towns where bird-books are not otherwise easily available. Our illustrated traveling lectures—three in number with 200 supplementry slides—have been in constant use in schools, clubs, granges, and the like. Traveling exhibits of bird-protection material have had wide circulation. The popularity of our annual lectures has necessitated the use of Symphony Hall—largest in the city—where thousands this year enjoyed the matter presented by some of the foremost bird-lecturers of the country.

Soon we will place in distribution a two-reel film of Longfellow's beautiful touching poem, "The Birds of Killingworth." This film, with its half hour of bird-pictures and its beautiful story, will be available at small rental for state and other Audubon Societies, bird clubs, and schools throughout the country. During the year we have added to our rolls 54 life and 651 sustaining

members, have received outside of dues and returns from investments, $912.43 in donations, and still are very much in need of added funds for our work.—WINTHROP PACKARD, *Secretary*.

Missouri.—The influence of the Society has been extended this year by the addition to its membership list of names well known for their interest in ornithology and wild-life protection. Affiliation with the Audubon Society of bird clubs and nature study clubs has further strengthened our organization. At the annual meeting, held in St. Louis, December 19, 1919, Dr. Harry Oberholser of the Bureau of Biological Survey, delivered a lecture on the habits of wild Ducks and Geese and measures for protection, which called forth an interesting discussion by sportsmen present and contributed an important message on game-conservation to the state press. At the present writing reports from hunters are being published on the extraordinary increase in the numbers of Wood Ducks over those of recent years; this seems to be evidence of the success of regulating hunting by the Migratory Bird Treaty. If the spirit of the Federal laws is being enforced, the same unfortunately cannot be said for the local bird-protective measures. The recent flagrant disregard and defiant procedure of an officer of the State Fish Hatchery and the spiritless recognition of his offence by the State Warden have discredited his department and a determined effort to have it put to rights is now in progress.—DR. ROBERT J. TERRY, *Secretary*.

New Hampshire.—The past year has been a successful one with the Audubon Society of New Hampshire, showing a continuance of the steady, healthy growth it has had since organization. There has been a gain in membership of about 100. As heretofore, constant activity in various fields of work has been maintained—newspaper publicity, distribution of bulletins, lectures, exhibits, and much individual correspondence.

Last spring the Society published a "Check List of the Birds of New Hampshire," giving the A. O. U. numbers, names, relative abundance or scarcity, and seasonal habitats of all birds found at present in the state. This, the first work of its kind issued, was in much demand and had a wide circulation throughout the state. The requests for this publication, bulletins, and other literature, shows the general interest, widespread and growing, in our bird-life and bird-protection, due in large part to the constant efforts of Audubon Societies and the loyalty of their members to the cause.—GEORGE C. ATWELL, *Secretary*.

New Jersey.—Under a plan for increasing receipts and by means of economies which necessitated unfortunate curtailment of some important activities, we rounded the mile-stone of another year without experiencing any of the financial crises that had marked some of the previous years. We have had an income during the year, including the previous year's balance of $1,363.69, of

$7,994.29. In maintaining its work during the year, it has expended $4,966.30, leaving a balance on hand of $3,027.99.

The Society's activities during the past year have, as heretofore, included lectures, newspaper publicity work, and attention to legislative matters. In the field of school-work, a plan of coöperation with the work of the National Association of Audubon Societies was again inaugurated, and although handicapped, as far as the Society was concerned, by a late start, 440 Junior Audubon Classes were organized in the state of New Jersey, with a total membership of 15,492, the state thus ranking sixth among all the states in which this work was carried on.

The tenth annual meeting was held in the Newark Free Library on October 11, 1920 at 4 P.M. The meeting of the Board of Trustees immediately followed. All the trustees and officers were reëlected.

At the public session at 8 P.M. in the auditorium of the Newark State Normal School, Howard H. Cleaves, of the New York State Conservation Commission, gave an address on "With a Camera among the Birds," illustrated by stereopticon slides and motion pictures. Mr. Cleaves' popularity, which was apparently indicated several years ago when he gave an address for the Society, was abundantly confirmed by the large and enthusiastic audience that greeted him on the present occasion.—BEECHER S. BOWDISH, *Secretary*.

Ohio.—The past year has been the most successful in the history of the Society. To measure the success of such an organization is difficult, for the creation of a sentiment is too subtle a thing to be weighed or measured. In a material way, however, we can record an improved financial condition and a great increase in membership. This is, perhaps, the most tangible and important advance, for new and younger members must in future carry on the work.

Two big events the past year much advertised our work. These were the tea and reception in January, when a hundred guests enjoyed a social hour in the tea-room of the Ohio Mechanics Institute and the lecture recital of Edward Avis. The latter event was enjoyed by 1,500 people and netted the Society over $160. Mr. Avis lectured before two other organizations and addressed many schools in the city and suburbs. Lectures by the president, Prof. William G. Cramer, by Prof. Charles Dury and Misses Hosea and Sweeney before the Society and other organizations, helped to foster the spirit of bird-love throughout this vicinity.

In the legislative field the Society was not idle. Owing to a misunderstanding of the migratory bird law, Mourning Doves were being slaughtered in Ohio. The President took prompt action and caused a clearer interpretation of the law to be rendered.—(Miss) KATHERINE RATTERMAN, *Secretary*.

Oregon.—The most important work of the year has been our effort to save the Malheur Lake Bird Reservation which was established by President

Roosevelt in 1908. The necessary signatures have been obtained to the initiative petition which enables us to put the measure before the voters for decision at the November election. The purpose of the measure is to clear the title to the Reservation and put the authority in the control of the Federal Government for perpetual preservation, the reservation to be known as "The Roosevelt Bird Refuge."

The state has been worked over in the interest of the Junior Audubon Classes. Portland and county have been fortunate in the number of school societies formed because of the painstaking work of a member of our Society. The Bird Study Committee is especially strong, furnishing weekly programs of excellent and varied character, having much popular interest. Our second annual exhibition of bird paintings, water colors, and photographs of wild birds was held April 11 to 20 in the Public Library.—Dr. Emma J. Welty, *Corresponding Secretary.*

Rhode Island.—The work of the Audubon Society of Rhode Island has been continued along the same lines as past years. This consists of lectures, traveling libraries, Junior Classes, and legislation. No new work has been attempted during the year, but there has been the usual use of the books of the library; the usual response to calls for bird lectures by the Secretary; and the usual careful attention to legislation on the part of the Legislative Committee. It is with deep regret that we report the death of George L. Phillips, Chairman of the State Bird Committee, and an active member of the Society. —H. L. Madison, *Secretary.*

REPORTS OF OTHER AFFILIATED ORGANIZATIONS

Audubon Association of the Pacific (Calif.).—During the past year much has been attempted and something done. Eight acres in the suburbs of the city have been secured for experimental purposes. Here, feeding and housing demonstrations have been conducted. Contrary to California records in bird-house tests, an average of 92 per cent of tenancy (by desirable tenants) has been recorded. Lists of resident and visiting birds have been included in E. G.-registry. Monthly field-trips have been conducted and proved popular. Much correspondence has been carried on and innumerable questions answered.

Monthly lectures by experts, given both from the viewpoint of ornithology and protective aviculture, have met with well-sustained patronage. At the California State Wild Flower Exhibit, we displayed mounted birds and various seeds and fruits eaten by birds. We inaugurated a Junior Bird Diary Competition, covering a period from April 10 to May 22. The Competition, duly graded, was open to all school pupils. Printed directions how to classify the records were issued. The result secured proved that the activity was specially

fascinating to the children, as well as an asset of positive educational and economic value. Various diplomas and badges were awarded.

The Association has for some time sought remedial measures to neutralize the damage to aquatic life by waste oil polluting the waters of our coast. Appeal was made to the large oil companies whose tankers were the principal causes of the damage, and conditions have already been improved. We have given attention to resting-places on lighthouses for migratory birds. This remedy is under course of installment and will undoubtedly prove of much value as a life-saver. Our legislative work is in the hands of a special committee under the direct chairmanship of an experienced attorney. We stand prepared to coöperate with kindred organizations on all lines needing combined action.

The Association is directing much attention to the Alaska Eagle Bounty Law. Joseph J. Webb, an attorney, and chairman of the Committee on Legislation, personally investigated the subject during a recent visit to Alaska. His data will be available when the combined special committee of Cooper Ornithological Club and Audubon Association of the Pacific renders its report. Our bulletin, *The Gull*, is issued monthly. Membership in the Association is steadily increasing. In the hearty coöperation of the local press, school boards, and teaching staffs, we have found very effective and appreciative colleagues.—FREDERICK W. d'EVELYN, *President.*

Audubon Club of Norristown (Pa.).—During the past year we have had several interesting meetings, including lectures by Alson Skimmer on "Across the Florida Everglades;" by Dr. Wimter Stone on "A Naturalist's Camp in the Chiricahua Mountains, Arizona;" and by Edward Avis, the bird imitator, on the subject, "Bird Land."

The Club is affiliated with the Pennsylvania Audubon Society and the National Association of Audubon Societies. Our dues are $1 a year and the membership now numbers 220.—(Miss) ISABELLA WALKER, *Secretary.*

Audubon Society of Buffalo (N. Y.).—The eleventh year of our Audubon Society was one of encouraging progress in increased membership and in the added interest in our bird-walks and lectures. Two feeding-stations were placed in Delaware Park. The feeding of birds in the parks by individuals has become so general that many birds have grown very friendly. "High Dive," the Red-headed Woodpecker I told you about last year, came back for the third summer.

The sixth yearly issue of 1,000 bird almanacs was sold so fast that money had to be returned for orders we were unable to fill. The money added to our treasury makes a bird sanctuary, which is our goal, look a nearer possibility. Fourteen spring and fall bird-walks were led by our President, Mr. Avery, who is indeed a true nature lover. Three lectures were given during the winter, ending with an experience meeting at the annual meeting. This was done by

someone present telling an incident or experience of the different birds as they were flashed on the screen. Mr. Avery gave the general information.—(Mrs.) CHARLES M. WILSON, *Secretary.*

Bird Conservation Club of Bangor (Maine).—Our Club has been especially active during the last year. At the request of the National Association we caused many letters to be sent to the Congressmen and Senators from Maine protesting against infringement upon any part of Yellowstone Park. Last year the Club placed a cabinet of mounted birds in the Children's Room of the Bangor Public Library. Most of the birds had met death by accident, and the Club had them mounted. A few were presented by friends. This year we have had a second cabinet made to be placed on the other side of the fireplace. The children have shown much interest in studying the birds. We have kept up the work of feeding winter birds and putting up nesting-houses. In one cemetery where we have fifteen bird-houses, twelve were occupied this last summer. Through the year, from November to June, a member of the Club has contributed bird-notes regularly to one of our daily papers of wide circulation.

The monthly meetings have been well attended and of great interest. Public lectures were given for us by Professor Hitchings of the University, of Maine, on "A Bird Trip to Islands of Penobscot Bay;" by Rev. George W. Hinckley, of Good Will Farm, on "The Birds of Good Will;" and by Rev. Arthur Wilson, of Belfast, on "Birds in Poetry." Our feeding meetings constitute one of our great assets. We hold them throughout the spring and early summer and again during the fall months.—(Miss) ALICE B. BROWN, *Secretary.*

Bird Lovers' Club of Brooklyn (N. Y.).—With the opening of the fall season, 1920, the Bird Lovers' Club of Brooklyn starts its thirteenth year of activity as an organization. During the past twelve months the Club has carried on an extensive membership campaign. To help stimulate interest in this work, a number of field-trips, covering the best bird regions in the vicinity of New York City, have been mapped out and are to be set before all those who may be interested in ornithology. To reach the general public, hand-painted posters showing accurate studies of our birds have been placed in prominent places in our parks and museums. The bird-work in the parks of Brooklyn has been enhanced by the hearty coöperation of the Commissioner of Parks, John N. Harman.

The Club meets in the Library of the Children's Museum at 8 P.M., on the first Saturday of each month, October to June inclusive. Visitors are welcome at all meetings.—GEORGE B. WILMOTT, *Secretary.*

Burroughs Junior Audubon Society of Kingston (N. Y.).—We reorganized on September 21, 1920. About thirty members were enrolled at this first gathering. The past year has been a most successful one for this

Society. Programs were arranged for each meeting and our common birds, their habits, and songs were studied. We have a mounted Screech Owl, "Tiny Tim" as we call him, thus keeping "Pete," the Great Horned Owl, mounted a year ago, from becoming lonesome. Under the auspices of the Audubon Society, Herbert K. Job, on March 4, entertained an appreciative audience with some of the moving pictures of the National Association.

On March 28, an Audubon party was held in the gymnasium. Each one came to represent a bird and a gay party it was. One of the features of the "Birdies' Ball" was a guessing contest which produced a great deal of merriment. In May, field trips were made by groups of members, and the last meeting was held in the open as a picnic when many interesting experiences of the trips were related. As a fitting climax to a successful year, the members of the Society visited John Burroughs at Slabsides and spent a most delightful afternoon with the great naturalist.

At the September meeting the following officers were elected to serve the coming year: Honorary President, Miss Mauterstock; President, Elizabeth Burroughs; Vice-President, Francis Lennox; Secretary, Ethel Shaffer; and Treasurer, Agatha Flick.—(Miss) ELIZABETH BURROUGHS, *President.*

Community Bird Club of Wells River (Vt.) and Woodsville (N. H.).—Monthly meetings with programs have been held through the year. A Junior Audubon Society has been organized in each village. Much interest has been developed in feeding the birds during the winter and putting out nesting-boxes in the summer. In March we rented films of the National Association and held a moving picture exhibit which in spite of inclement weather was well patronized and much enjoyed. We have equipped each of the schools with a set of the Audubon Bird Charts. Not the least of the effects of our work is the increased interest of the community in bird-life.—(Mrs.) CLARA EASTMAN SMITH, *Secretary.*

Crawfordsville (Ind.) Audubon and Nature-Study Club.—In January the Club offered prizes for bird-houses and feeding-tables built by school children of the seventh, eighth, and ninth grades, under the supervision of the teacher of manual training. About seventy-five children entered this contest. The Club also offered prizes in the fifth to the ninth grades for the best short themes on the subject of personal experiences with birds. More than 600 themes were handed in to the Committee.

About 200 bird-houses were on exhibition March 25 and 26, and on the evening of March 26 there was an entertainment before a very large audience composed of school children and their parents. At the end of an excellent program, twenty-five prizes were awarded. The check which each successful contestant received seemed to represent much more than the dollars and cents specified thereon. The first check, payable to himself, which a child receives is a wonderful thing. Many new bird-houses, feeders, and baths have been

put up this year, and people report new species nesting on their premises. Only a few years ago there was only one colony of Purple Martins in town. They are now becoming common. New houses are being erected every year and practically all had tenants this summer. A Martin-house and a feeder were erected on the high-school grounds, and a Martin-house at one of the graded schools and in our new park. F. C. Evans, the President of our Club, donated to the schools a number of colored charts of our common birds. The Public Library has purchased several new bird-books during the year. We have published many articles on winter feeding and general bird-conservation in the local papers.—(Mrs.) Donaldson Bodine, *Secretary.*

Cumberland County (Maine) Audubon Society.—Our Club was inactive during the World War, but we are again in action and are waxing strong. About seventy-five members, besides many associates and Juniors were added during the past year. Our meetings have outgrown the room formerly used in the Natural History Museum, and we are now quartered in the Hall of the Portland Society of Arts. At one of the meetings Arthur H. Norton gave a stereopticon lecture showing some of the ninety birds that winter in this vicinity and telling of their skill in gathering weed seeds and insect eggs; again he lectured on migratory birds. The Burroughs Nature Club, from the Women's Literary Union, entertained us one evening with stories of their experiences in exploring birdland. Not the least interesting feature of our meetings has been the swapping of bird stories—romantic, adventurous, and appealing. Combining with the Open Forum we gave two illustrated lectures, one by Harold Baynes on "Birds," the other by William Dawson on "Mt. Katahdin."

Perhaps our greatest experience in creating interest was through Rev. Manley Townsend. He gave an evening lecture to a packed house and was enthusiastically received. The local papers have been most generous with their notices. Nine of the reporters were elected complimentary members of the Society. During the past hard winter the birds about Portland (under the leadership of the Audubon Society) were fed regularly. The Black Ducks were an especial object of concern and were liberally provided for. Saturday field-trips were planned very early in the spring and enjoyed by many. The bird *versus* cat problem has absorbed us somewhat, and a committee has been formed to help work out a solution.—(Miss) Amy P. Wiswell, *Secretary.*

Elgin (Ill.) Audubon Society.—The Elgin Audubon Society has held regular monthly meetings throughout the year, with an average attendance of sixty-five. At these meetings members bring their luncheon. Later the business and a discussion of birds and a musical program follows. Our annual exhibit was held during April, with increased interest and attendance. The city was canvassed from house to house with pledges asking people to protect

the birds, nests, and eggs on their property. The public schools were also canvassed. Hundreds of men, women, and children signed the pledges.

The museum turned over to us by the city is ready for opening. It is 45 by 50 feet, finished inside in natural oak and mosaic floors. It is an ideal place for our collection. The Federal Government sent us over 300 specimens which are valued at $500. We have secured the valuable collection of the Elgin Scientific Society valued at $5,000. These, with several private collections, make the entire exhibit valuable and educational. To install a heating plant, portable cases, etc., will cost us about $3,000. We print our monthly programs which include the place of meeting, the birds to be discussed and musical program.—CYRILL ABBOTT, *Secretary.*

Elkader (Iowa) Audubon Society.—On February 27, 1920, the Elkader Audubon Society was formed with twelve members. Before the next meeting this number was increased to twenty-seven. At the March meeting a committee was appointed to work out a plan for a Junior Audubon Society. It was also decided to have a bird-house contest for the children. This aroused quite a bit of interest, and ten houses were entered. One was made by a girl and won a prize. At each of the monthly meetings we have a discussion on birds by different members. Illustrations are also passed at the time so that members not familiar with the bird in question can get some idea of its appearance. Eight members attended the "Wild Life School," held at McGregor in August. The September meeting was a report of these activities by those members who attended this unique school.—KATHLEEN M. HEMPEL, *Secretary.*

Hamilton (Ontario) Bird Protection Society.—We have been organized scarcely a year and a half, but feel justly proud of what has already been accomplished. The first year our adult membership was 147; this year it is 198. Six meetings were held the past year, at which were heard such prominent lecturers as Prof. J. W. Crow, of Guelph Agricultural College; Hoyes Lloyd, Dominion Ornithologist; W. E. Saunders, of London, Ontario, and William B. Hoot, of Rochester. Last spring two Field Days were held, when we rambled along the mountain-side hunting for birds. We reported eighty-three species of migratory birds to the United States Biological Survey. In July our Society was granted an Ontario Charter, under the name of "The Hamilton Bird Protection Society."

Our Junior Club work has been very encouraging. This was demonstrated by the formation of 296 Junior Clubs under the National Association's plan of work, with a total membership of 9,469. In this work we enjoyed the most hearty coöperation of the school authorities. A competition in building nesting-boxes was held at several schools for the manual training classes. Nearly 200 boxes were entered. Our Bird Sanctuary has been equipped with weather-vanes, feeding-shelters, bird-boxes, and a number of Saunders feeding-boards. Many

members of the Society have had good results in feeding the birds about their homes and have erected nesting-boxes. We have a wonderful area in our vicinity called the Dundas Marsh. We are now trying to have this declared a bird sanctuary by the Dominion and Provincial Governments.—(Miss) Ruby R. Mills, *Secretary.*

Hartford (Conn.) Bird Study Club.—We have about the usual activities to report for the past year in spite of the trying conditions following the war. There have been twenty-one indoor meetings devoted to different subjects all of much interest to students of nature. There were three illustrated lectures in the usual line, and for a special evening we were able to secure William L. Finley, who showed, by means of his moving pictures, how wonderful an auto trip through the mountains near Mt. Rainier could be. The lectures and readings by members, a number of the former finely illustrated by slides, were so much enjoyed by the Club as to deserve a recording word of appreciation.

Thirty-six Wood Ducks were reported seen on one evening and one pair of Mallard Ducks were repeatedly seen in August. A nesting Pigeon Hawk and also nesting Prairie Horned Larks were seen. A protest against the exploiting of Yellowstone Park for commercial purposes was sent to all of the Connecticut Senators and Representatives in response to a request from the National Association.—Florence Newberry, *Corresponding Secretary.*

Meriden (Conn.) Bird Club.—During the past year the evening meetings in winter and summer hikes of the Meriden Bird Club have been planned as usual. In May the State Federation of Bird and Nature Clubs met in our Hubbard Park as guests of the Waterbury Club, which proved a most interesting occasion. Our composite list of birds seen during the year amounts to about 140 species—two of them rare—a flock of fourteen Evening Grosbeaks seen last March about Akron Street, and a pair of Little Blue Herons nesting at Mount Higby Reservoir, with one young nestling seen in August.—(Miss) Esther R. Hall, *Secretary.*

Meriden (N. H.) Bird Club.—Our most important work in 1920 was the founding of our museum of bird conservation. Some years ago the Club bought an interesting but dilapidated colonial house standing on ground which is now a part of our Bird Sanctuary, and on September 25, 1920, the building, completely restored, was opened informally. People who visit it may learn what can be done to attract birds to their own gardens, to private or public grounds having the necessary natural conditions. In one room a visitor may see various bird-houses and nesting-boxes; in another, feeding devices and the kinds of food likely to attract different species of birds; in still another room, bird-baths and models of bird-baths. Other features to be provided later will be plans of the principal devices for bird-attracting apparatus, also models and plans for

bird-gardens, and a collection of the most approved devices for getting rid of the enemies of birds.

The work of restoring the building was done under the direction of Miss Annie H. Duncan, a member of the Club. Last spring the concert of bird voices in our Sanctuary was unusually fine, and Mr. Baynes wrote and had printed a unique and amusing poster calling attention to the evening performances. The sixth annual Bird Sunday was held August 15, when a sermon on the "Inspiration of Nature" was preached by Rev. W. A. Rice, D.D., of East Orange, N. J. At the annual meeting Ernest Harold Baynes gave a most interesting lecture on "The Pigeons in Warfare."—(Miss) ELIZABETH F. BENNETT, *Secretary.*

Natural History Society of British Columbia.—As heretofore our work last year dealt very largely with the subject of the study of natural history, many interesting observations having been made on the bird-life. One of our members, J. R. Anderson, reports extensive observations on the Tule Wren. He mentions that Purple Martins seem to have forsaken the vicinity of the city of Victoria. W. F. Burton found the Band-tailed Pigeon breeding the past season, nests in every case being isolated and situated in deep thickets of sapling firs on islands.

I may add that there has been a noticeable decrease in the number of Blue Grouse, Willow Grouse, and Pheasants on Vancouver Island. California Quail, I am glad to say, are plentiful and their services in destroying strawberry weevils are well known and appreciated. Skylarks, presumably descendants of those we imported from England in 1912, are seen locally in the meadows of Victoria but not elsewhere.—HAROLD T. NATION, *Secretary.*

New Century Club of Utica (N. Y.).—By contributions we have continued the membership of the New Century Club in the National Association for the last year, and we expect to do so for the year to come. An address upon birds in the Club lecture course last winter aroused much interest and extended the interest in studying and protecting them. The Science Committee of the New Century Club is to renew its study of birds for the season of 1920–21.—(Miss) ELIZABETH G. BROWN, *Secretary.*

Neighborhood Nature Club of Westport (Conn.).—Meetings have been held monthly for the past year with pleasing support of the members. When weather conditions permitted we took bird-walks after the meetings. Our former Vice-President, having removed to Wilmington, Del., began work there in the public schools, receiving gratifying results and the enthusiastic support of the teachers. Many uncommon bird visitors were reported during the winter months at the feeding-tables. The Club presented a lantern-slide lecture, loaned by the Audubon Society for the school children of the town of Westport.

These lectures and pictures are a never-failing source of interest to both children and adults. Following are the officers for the coming year: President, Mrs. H. P. Beers; Vice-President, Miss Laura Chapman; and Secretary-Treasurer, Miss May Burr.—(Mrs.) H. P. BEERS, *President.*

New York Bird and Tree Club.—This Club was organized February 11, 1918, by New York resident members of the Chautauqua Bird and Tree Club. During the past winter, meetings held in the American Museum of Natural History have been under the supervision of the President, Dr. George F. Kunz, whose active interest in the Club's work has been untiring. We have had lectures by T. Gilbert Pearson, Dr. G. Clyde Fisher, and others. During the summer Dr. Fisher and Mrs. Gladys Gordon Fry conducted two delightful "Bird Walks" in Central Park. At least 20,000 fruit trees have now been planted in France with funds collected by the Club. A tribute has come from Marshal Foch in a personal letter, assuring us that he, with Mme. Foch, would personally distribute the funds sent to their district.

In a letter from Professor Antoine, Director of Social Work in Nancy, Lorraine, he said: "Our property in Gentilly, which extends 12 hectares, receives every day during vacations about 2,000 children belonging to the laboring classes of our city of Nancy. These children, accompanied by their teachers, pass the entire day in the open air and receive physical instruction as varied as possible. In regard to the fruit trees, I will establish a nursery in which the little trees may be grown and grafted under the care of the children. Our property is situated not far from a large forest, and I wish to arrange a place where the birds can find food in winter and also, if possible, prepare nests, in order to bring back and increase the useful birds in our Liberated Region.'

We are sending to Professor Antoine the Audubon bird leaflets, as the beautiful colored plates require no translation to be understood by the children. The Club is now anticipating with great pleasure Mr. Pearson's promised lecture for the November meeting, illustrated by slides and moving pictures, of his recent bird-life studies in the coast lands of Texas.—(Mrs.) DAVID C. BALL, *Secretary.*

North East (Pa.) Nature Study Club.—While ours is not distinctly an Audubon Society, we do considerable bird-work. Last spring, E. C. Avery, President of the Buffalo Audubon Society, gave us an illustrated lecture on birds. At our last meeting, Miss Emma Siegel, of Erie, was a guest of our Club, and told of the wonderful accomplishments of a tame Robin that had been kept in a large cage since infancy, and it is now ten years old. Discussion also drifted to the Bobolink in fall plumage. Two of our members reported seeing a pair of Pileated Woodpeckers nine miles south of here. Pet cats have been disposed of, numerous bird-houses erected, winter-feeding at homes done by many, and at least one Sparrow trap is being successfully operated. Our Club

has added several excellent nature-books to our public library. We have several teams doing special work. Among them are one on mushrooms, one on butterflies and moths, and one on ferns. One of our members contributes frequent articles on birds and other nature topics to newspapers and nature magazines.—(Mrs.) MARIA H. BENEDICT, *Secretary.*

Pasadena (Calif.) Audubon Society.—The Society has grown considerably during the year and much enthusiasm and interest have been shown. One feature that has developed considerably is the bird-walks, under competent leadership. On these excursions the "Audubon Bird Cabinet," Case No. 4, has been most useful. We had the privilege of having John Burroughs at one of our meetings. He gave a delightful talk on various experiences in the open. The house was crowded to capacity.

Another pleasant experience was a trip taken by a number of members and their friends to the Ross Field of the Aviation Camp at Arcadia to see and have explained the wonderful work of the Homing Pigeons, used so effectively in the camp. Largely through our efforts, an exceptionally fine aviary of rare birds has just been presented to the city of Pasadena and placed in one of the city's parks, where it will give great pleasure and also be of great educational value.—(Miss) ALICE W. PITMAN, *Secretary.*

Province of Quebec Society for the Protection of Birds.—This Society was founded January 4, 1917. Its progress has been steady. During the past year over 3,000 children have signed the Society's pledge card and wear their buttons. These children and others have enjoyed the public lectures during the year, two given by Herbert K. Job of the National Association of Audubon Societies, and one by the late Dr. C. Gordon Hewitt, Dominion Entomologist.

Nine meetings of the Society were held in the Windsor Hotel when various papers relating to bird-life were delivered and discussed. The coöperation of the Boy Scouts was enlisted in the care of the bird-houses erected in the various sanctuaries established by the Society during the last three years. Addresses are given by members to these Scouts from time to time. Lectures were given at four summer camps during the past summer. The Society now has eight honorary game-wardens to assist in the carrying out of the Migratory Bird Convention Act. Field days are held every Saturday afternoon during the spring and autumn months.—(Mrs.) W. E. L. DYER, *Honorary Corresponding Secretary.*

Read, Mark, and Learn Club (R. I.).—I beg to state that our activities have been practically the same as last year, confined to the maintaining of bird-houses and feeding-stations by individual members, walks for bird-study, an effort to spread information concerning bird conservation throughout the

community, and a general interest in the feathered observation wherever possible.—(Mrs.) JULIA ASHLEY RICH, *President.*

Rhinebeck (N. Y.) Bird Club.—During the past year the Rhinebeck Bird Club has held only one public meeting which consisted of a lecture, illustrated with lantern slides and motion pictures, by Herbert K. Job, in February. Individual members of the Club have, however, been active in field-work. It is proposed to publish in the near future an illustrated yearbook covering the years 1918, 1919, and 1920, which will contain a catalogue of Dutchess County birds with latest data of migration and occurrence, compiled by Maunsell S. Crosby, President of the Club.—CLINTON G. ABBOTT, *Secretary.*

St. Louis (Mo.) Bird Club.—Development of the St. Louis Sanctuary in accordance with the original plan has been in progress during the year. Many shrubs and trees have been planted, fences built on two of the boundary lines, and the grading of the high embankment well advanced. The New Park Commissioner, Mr. Pape, has promised his coöperation in the Bird Club's plans for this novel feature of the St. Louis park system.

Bird-walks were conducted during the spring months. A census was taken December 27, 1919, over an area of four square miles at Creve Cœur Lake, resulting in the finding of twenty-eight species and 2,378 individuals. Christmas trees for birds were prepared in the Missouri Botanical Garden, Forest, O'Fallon, and Lafayette Parks. At the annual meeting Dr. Frank Wilson addressed the Club on birds observed in England during the war service, illustrating his lecture with most interesting photographs made in the field.

The Club is at present uniting its efforts with those of other wild-life protective organizations in the state to have better administration of the local bird laws, the occasion for this special action being the destruction of protected birds by a fish warden in one of the public parks of St. Louis.

There are 168 members of the Club: 4 patrons, 17 life and 147 annual members.—DR. R. J. TERRY, *President.*

Saratoga (N. Y.) Bird Club.—Our Club can report an interesting year. We have held nine meetings.

Two illustrated lectures were given before the Club during the year: One by T. Gilbert Pearson, President of the National Association of Audubon Societies; the other by Clinton G. Abbott, of the State Conservation Commission.

The Junior Audubon Society, so ably directed and encouraged by Miss Kate McCloskey, held its meeting in February. The Junior Members made great progress under their inspiring teacher, whom we regret to report has recently died. At the request of Mr. Pearson of the National Association, we sent a protest to one Representative and Senator at Washington regarding the

"Smith of Idaho" bill, which threatened to destroy the Yellowstone Park.—CAROLINE C. WALBRIDGE, *Secretary.*

Scranton (Pa.) Bird Club.—A strenuous season marked the fifth year of the life of our Club. The regular fall meeting was held September 21, 1919, at Campbell's Ledge, about twelve miles from Scranton. In October, on Arbor Day, a sale of perennial plants was held at the Everhart Museum. November saw a vigorous fight waged by members of the Bird Club against the vicious practice of live-bird trap-shooting. Early in December an Industrial Exposition, conducted by the Scranton Board of Trade, was held at the Armory. Here the Bird Club occupied a booth for the entire week showing a winter scene and featuring the feeding of winter birds, mounted specimens of which were lent by Curator R. N. Davis of the Everhart Museum. January 3, the used trees of the kindergartens were arranged in Nay Aug Park as shelters for the birds and trimmed by Junior Members with bird-food.

Beginning January 17, and continuing for six consecutive weeks, the Club held a class in bird-study one hour each Saturday. This class was held at the Everhart Museum in charge of Prof. R. N. Davis, other speakers including the President of the Club, Rev. L. R. Foster, W. H. Scranton, and Game Warden Anneman. One hundred and twelve enrolled for this class, the attendance averaging fifty. In February we had a charming lecture by Edward Avis. A Bird-naming Contest for Girl and Boy Scouts was held early in March at the Everhart Museum and the annual Bird-House Competition followed in early spring. Nearly 500 houses were made by the boys of the vicinity this year, about 100 competing for prizes offered by the Club. Arbor Day in April was celebrated by the planting of thirty evergreen trees for the birds in Nay Aug Park by a troup of Girl Scouts. During May and June the noting of new arrivals put everything else in the background, and on June 18 the city parks were divided into sections and canvassed by teams for a regular bird census.—(Mrs.) FRANCIS HOPKINSON COFFIN, *President.*

Seattle (Wash.) Audubon Society.—The Junior Audubon Societies have increased their membership during the past year, and there has been an increased demand for talks in the schools and Parent-Teachers' Clubs throughout the city. The libraries have coöperated in every possible way, which has made the work more effective. The National Association's leaflets have been ordered and distributed through them in large quantities. The Main Library had a glass case made for our use, and in it we keep a changing exhibit of bird skins and pictures, according to the bird calender for each season. Through the local papers, especially the *Junior Post-Intelligencer*, we have had more press notices the past year and also are able to run an information bureau on birds by telephone. Many questions are referred to us by the *Seattle Times.* The taking of the bird census at Christmas-time has at last become an established

work of the Society, because of the better coöperation of the members.—(Mrs.) C. NORMAN COMPTON, *President.*

Sewickley (Pa.) Audubon Society.—The Fifth Annual Bird Lovers' Dinner Lecture (joint auspices of Audubon Societies) held in the Chamber of Commerce, Pittsburgh, Pa., followed by lecture by William L. Finley of the National Association of Audubon Societies, was really the only entertainment held by the Sewickley Audubon Society, except a few hikes led by local bird-lovers during the past year.

The above lecture was exceptionally interesting. Our new president is Mrs. Tracy W. Guthrie.—(Miss) EDA L. YOUNG, *Secretary.*

South Bend (Ind.) Humane Society.—At the close of the school year in the spring, we had a contest in the public schools, offering a prize for the best-built bird-house. There were about fifty entries, running all the way from a Wren-box to a large Martin-house. We expect to hold another contest next season. Bird-talks with slides were given by the Secretary in the public schools. We are endeavoring to discourage the use of the small gun, which is used by the boys to kill Sparrows and all the other birds they meet. We have already made two arrests. The schoolrooms of this city have hundreds of pictures of birds adorning their walls, and each week humane talks are given by the teachers.—HENRY A. PERSHING, *Secretary.*

Stanton (Maine) Bird Club.—Our Club is named as a memorial to the beloved professor who inspired so many of us with a love for bird-study. It has held seventeen regular meetings, several picnics, numerous hikes, and fifty-three morning bird-walks. We have had a public lecture by Herbert K. Job of the National Association, and our treasurer, Miss Miller, has taken the course in bird-study at the National Association's Summer School at Amston, Conn.

The meetings are held the first Monday evening of every month. There is always a "roll-call" of birds seen by members, a special talk of some phase of bird-life most familiar to the speaker, and informal discussions of experiences in which all take part. Lists of birds seen each month are carefully recorded. More than 125 kinds of birds have been recorded, 95 having been observed on club walks. Winter feeding is one of our hobbies, We have put up bird-houses, set out shrubs and plants for birds, have tentative plans for a sanctuary, and have a growing enthusiastic membership of nearly a hundred Juniors and seniors in various walks of life.—(Mrs.) DAISY DILL NORTON, *Secretary.*

Staten Island (N. Y.) Bird Club.—During the past year we have held monthly bird-walks, ninety-eight species of birds being seen on these occasions. The Club has also given seven lectures, three in the evening and four in the afternoon for children. The one by Herbert K. Job was illustrated with motion

pictures. The Club has maintained fourteen winter feeding-stations in co-operation with Boy Scouts and has supplied bird-houses to a number of its members. The balance in its treasury is now $137.57 including $44 subscribed toward establishing a bird sanctuary in the Staten Island woods, with about $100 more subscribed but not paid in. The membership now numbers 138.—CHARLES W. LENG, *Secretary.*

Ulster (Pa.) Nature Club.—The most popular feature of our activities are the frequent walks we take in fields and woods. Our Club is small—only seven members—and our study of birds having only extended over the past four or five years, we feel rather proud of what we have learned, especially through observation. Our list for 1920, at this date (September 25) numbers 118 birds. During the past winter we maintained feeding stations at our homes, having many regular visitors. Miss Louise Reynders has a well-organized Junior Audubon Society in our public school and has done much to interest children in bird-life. An increasing interest throughout our small village is also noticeable.—(Mrs.) FRED E. MATHER, *President.*

Vigo County (Ind.) Bird Club.—In September, 1920, we completed our fourth year with a membership of 70, while the Junior Audubon membership, because of the enthusiastic work of some of our members who are teachers, has reached almost 500. In March a Bird-box Contest was held, about 100 children entering. Great improvement in the boxes was shown over previous efforts, as this year the children worked according to specifications.

On November 21, 1919, Amos Butler, of Indianapolis, gave an illustrated lecture on "Birds of Indiana" to a large and appreciative audience. Every meeting of the year was well attended and many interesting talks were given by members. A number of field-trips were taken, the habits and nests of birds being specially noted. During the spring migration, bird-lists were made by four of our members and sent to the Biological Survey. The Indiana State Audubon Society meeting held in May at Martinsville was attended by three of our members.

More and more interest is being shown in serious bird-study and bird-protection. Two members have been given police power to arrest persons found molesting birds or their nests. All parks and cemeteries in Terre Haute, as well as a wooded stretch known as the "Tow-Path," are now bird sanctuaries, and it is the hope of the Club that our whole city may soon be known as a sanctuary for our feathered friends.—(Miss) SARAH J. ELLIOT, *Secretary.*

Washington State Federation of Women's Clubs.—The chairmanship of the Bird Committee came to me without any plans with which to begin work, so the past year has been spent in laying the foundation for some definite ideas to present to the clubs for work. At the State Federation meeting we advocated

a more general observance of Arbor and Bird Day, with the coöperation of the clubs and schools; that we devote at least one day to birds in the coming year's program; that we endeavor to get the school superintendent to make bird-study one of the topics in school, especially for the primary and intermediate grades; that bird-house contests be held; that we build drinking-fountains and feed the birds through the winter months. We further recommended that the clubs organize Junior Bird Clubs under the direction of the National Association of Audubon Societies, 1974 Broadway, New York City.

Sixteen clubs reported to be active in some form of bird-work during the year, and no doubt many others have been interested. We have already co-operated with the National Association of Audubon Societies. Through its perserverance many of the bird-conservation measures have been passed. We believe that in the study of birds there is a field of usefulness in which women may wisely exert themselves for the welfare of mankind.—(Mrs.) E. B. WILLIAMSON.

Waterbury (Conn.) Bird Club.—We have had an interesting season. A large and appreciative audience listened to Dr. Frank M. Chapman last April when he gave an illustrated lecture on "Bird Life in the Bahamas." A class for beginners in bird-study was organized by our President, Mrs. A. A. Crane, and taught by Mr. Harrison of Yale University. A number of bird-walks were held, led by members of the Club, and about the middle of May a bird census of Waterbury and vicinity was made. We divided Waterbury geographically into six districts. Members of the Club were assigned to each with a team captain. Each team took two days for observations and turned in a list of all birds observed to the Chairman of our Permanent Records Committee. There was a friendly rivalry among the teams as to which could get the largest list with the greatest number of rare migrants. A composite list was made and reported in the newspapers. This is kept on file with the records of previous years.—R. E. PLATT, *Treasurer.*

Wellesley (Mass.) College Bird Club.—During the past year, the Club enjoyed a number of bird-walks, led by professionals. Seventy nesting-boxes were kept in order, although accurate records of occupancy are lacking, owing to the pressure of other work. The keeping of these records will be resumed this year. Our fifteen feeding-stations have been unusually successful, being particularly popular with Purple Finches, Redpolls, Pine Siskins, and Evening Grosbeaks. The Grosbeaks, especially, became very friendly, often coming to the windows for their food. They stayed with us from February 5 to May 8, a much longer period than usual.—HELEN ALMA GARY, *Secretary.*

West Chester (Pa.) Bird Club.—Our Club work the past year (our thirteenth) has had many interesting features and the bi-weekly programs have

been particularly fine. In January Dr. Witmer Stone gave an illustrated address on his experiences in the Chiricahua Mountains in Arizona. Different Club members have given summaries of their summer bird-study as it has been carried on in the White Mountains, Long Island, Buck Hill Falls, Pocono Lake Preserve, and Porto Rico. One delightful evening was spent with the birds of Palestine. Mr. Waldo Hayes told of their wonders as he found them in the Near East during his reconstruction work there.

The second annual Bird Club Bulletin was issued in August of this year. This contains twenty-one pages describing the activities of the Club. The talent of the members is again shown in it by two original poems: "The Carolina Wren" and "Peach Bottom." The eighth annual pilgrimage to Peach Bottom, Pa., was again a red-letter occasion. Several field-trips and early morning walks have been taken. Interest in and knowledge of bird-life in the entire community has greatly increased the past year. This is due largely to the many Club members that are engaged in work in the field of education.—(Miss) Lillian W. Pierce, *Secretary.*

Winter Park (Fla.) Bird Club.—We have had a very successful and encouraging year. Meetings were held regularly during the fall, winter, and spring, with an average attendance of fifty, and the papers and bird-talks were of more than usual interest. One illustrated lecture on "Birds of the Lake Region" was given by Gerard Alan Abbott. Dr. L. H. Hallock gave several interesting talks before the Club, also to the schools and at the tourist hotels. The Secretary gave two illustrated lectures at the Florida Sanitarium. Several important features in the way of illustrated lectures are planned for the coming winter. The bird-walks, so profitable to many of the Club members last season, will be resumed in December. The Club has given two bird fountains to the public parks and has planned to put up a large number of nesting-boxes during the winter. The general supervision of the Winter Park Bird Sanctuary, which includes all lands within the incorporated limits and much adjoining property, will remain an important part of the work of the Club. A great increase in bird-life within the limits of the sanctuary has been noted during the year, and the success of this sanctuary has resulted in the establishment of seven more, the last being the city of St. Petersburg, the successful mover there being Mrs. Katherine B. Tippetts, President of the State Audubon Society and one of the active friends of the wild birds in Florida. The Club has about 100 active members, a considerable number of bird-lovers from other states being on the list.—W. Scott Way, *Secretary.*

Wyncote (Pa.) Bird Club.—Another milestone passed in the history of the Wyncote Bird Club shows a gain in many ways. Our paid-up membership for 1920 is 75 adults and 80 Juniors. Meetings have been held more regularly than before and attendance has been greater. On Annual Bird Day, Ernest Harold

Baynes gave a splendid lecture on "Birds in the Nesting Season." We had the usual bird-walks for Juniors and adults during the spring, including one memorable walk along the beautiful Wissahickon Creek, when a nest with three young of the Carolina Wren was found. An interesting trip by auto trucks was taken to the Philadelphia Zoölogical Gardens, and several delightful visits were made to "Briar Bush," the home in the woods of our President. This Bird Sanctuary is well known as our best place to see birds, and everything possible is done over the entire fifteen acres for their attraction and protection.

By actual count, forty nests were located this season, and 119 varieties were identified on the place, most of which bathed and drank at the bird-baths. One of our members, Christine Chester Crowell, was inspired by the Club and its activities to write a humorous light essay entitled "Deserting the Cat," which has appeared in the October "Woman's Home Companion" under the title "Friend Pussy." Two contests were held for: (1) the first bird to nest in a home-made bird-house, and (2), for the best photograph of wild birds. Autographed copies of "Wild Bird Guests" by Baynes were given as prizes. Additional bird-banding has been done during the year. A banded White-throated Sparrow No. 30098 has returned many times each winter for the past four seasons.—(Miss) Esther Heacock, *Secretary.*

JOHN H. KOCH & COMPANY, Certified Public Accountants

55 Liberty Street, New York

New York, October 23, 1920

The Audit Committee,
National Association of Audubon Societies,
1974 Broadway, New York, N. Y.

Gentlemen:—In pursuance with engagement, we have made our customary examination of the books, accounts and records of the National Association of Audubon Societies for the year ended October 19, 1920, and present herewith the following Exhibits together with Comments thereon:

Exhibit A—Balance Sheet as at the Close of Business, October 19, 1920.
Exhibit B—Income and Expense Account, General Fund.
Exhibit C—Income and Expense Account, Egret Fund.
Exhibit D—Income and Expense Account, Children's Educational Fund.
Exhibit E—Income and Expense Account, Department of Applied Ornithology.
Exhibit F—Statement of Receipts and Disbursements.

All disbursements made on account of your various funds were substantiated either by duly approved and receipted vouchers or cancelled endorsed checks.

We examined all investment securities held at your Safe Deposit Vault and found them to be in order.

Confirmations were received from your depositories certifying to the balances as shown on your books.

Submitting the foregoing, we are

Very truly yours,
John H. Koch & Co.
Certified Public Accountants.

The Report of the Treasurer of the National Association of Audubon Societies, for Year Ending October 19, 1920

Exhibit A

ASSETS

Cash in Bank and at Office, Exhibit F		$43,460 31
Furniture and Fixtures—		
Balance, October 19, 1919	$1,940 33	
Net Additions this year	33 56	
	$1,973 89	
Less—Depreciation	358 49	
		1,615 40
Inventory of Plates, etc. (Nominal Value)		500 00
Bird Island Purchase, Orange Lake, Fla.		250 20
Buzzard Island, S. C.		300 00
Audubon Boats—		
Balance, October 19, 1919	$2,192 54	
Additions this year	102 00	
	$2,294 54	
Less—Depreciation	357 88	
		1,936 66
Investments, Endowment Fund—		
Bonds and Mortgages on Manhattan and Bronx Real Estate	$406,150 00	
U. S. Mortgage & Trust Co. Bonds	3,000 00	
U. S. Government Liberty Bonds	25,300 00	
		$434,450 00
Investments, Mary Dutcher Memorial Fund—		
Bonds and Mortgages on Manhattan Real Estate		7,100 00
Total Assets		$489,612 57

LIABILITIES AND SURPLUS

Endowment Fund—		
Balance, October 19, 1919	$424,924 89	
Received from Life Members	21,245 00	
Received from Gifts	206 65	
Bequest Estate of C. H. Davis	952 50	
		$447,329 04
Mary Dutcher Memorial Fund—		
Balance, October 19, 1920		7,737 70
Special Funds—		
Egret Protection Fund, Exhibit C	$512 45	
Children's Educational Fund, Northern States, Exhibit D	5,130 07	
Department of Applied Ornithology, Exhibit E	66	
Roosevelt Memorial Fund	14,315 93	
		19,959 11
Accounts Payable		7,263 00
Surplus—		
Surplus, October 19, 1919	$7,763 47	
Less—Balance from Income Account for year ended, October 19, 1920, Exhibit B	439 75	
Surplus, October 19, 1920		7,323 72
Total Liabilities and Surplus		$489,612 57

INCOME AND EXPENSE ACCOUNT—General Fund

Exhibit B **EXPENSES**

Warden Services and Reservations—		
Salaries	$585 00	
Launch expense	50 73	
Reservation expenses	100 00	
		$735 73
Educational Effort—		
Administrative expense	$8,448 00	
BIRD-LORE, Extra pages Annual Report	2,356 33	
BIRD-LORE to members	5,826 82	
Bird-Books	1,234 86	
Colored plates in BIRD-LORE	284 66	
Contribution to Long Island Bird Club	6 50	
Contribution to Illinois Audubon Society	100 00	
Contribution to National Park Association	100 00	
Drawings	346 00	
Electros and half-tones	361 91	
Educational Leaflets	6,428 37	
Field-glasses	2,590 67	
Field Agents, salaries and expenses	5,230 45	
Library account	412 36	
Printing —Office and Field Agents	484 88	
Slides	1,074 65	
Summer-school work	265 00	
Miscellaneous—Supply Department	1,115 31	
Yellowstone Park	57 80	
Contribution Linnæan Society	100 00	
Printing of Bulletin No. 4	1,668 96	
Roosevelt Bird Refuge	2,000 00	
Amston, (Conn.) Summer School	356 23	
		$40,849 76
General Expenses—		
Auditing	$125 00	
Annual meeting expense	265 45	
Cartage and expressage	100 98	
Depreciation on boats	357 88	
Depreciation on office furniture	358 49	
Electric light	39 48	
Exchange on checks	30 39	
Envelopes and supplies	416 67	
Insurance	55 58	
Legal services	245 00	
Miscellaneous	525 22	
Multigraphing	40 75	
Publicity and New Membership Campaign	10,384 27	
Office and storeroom rents	2,370 00	
Office assistants	8,740 34	
Postage	2,121 35	
Supply Department expense	1,472 13	
Stencil Addressograph Machine	70 08	
Telegraph and telephone	248 07	
		27,967 13
Total Expenses		$69,552 62

INCOME

Members' Dues		$21,900 00
Contributions		8,611 25
Interest on Investments		23,458 61
Supply Department Receipts—		
Bird-Books	$2,109 25	
BIRD-LORE	775 44	
Educational Leaflets	6,973 87	
Field-glasses	2,679 85	
Slides	630 78	
Bulletins, Department of Applied Ornithology	146 31	
Cabinets	507 30	
Charts	759 74	
Miscellaneous	560 47	
		$15,143 01
Total Income		$69,112 87
Balance carried to surplus for the year, Exhibit A		439 75
		$69,552 62

EGRET PROTECTION FUND

INCOME AND EXPENSE ACCOUNT

Exhibit C

Balance October 19, 1919		$1,539 44
INCOME—		
Contributions		3,933 71
		$5,473 15
EXPENSES—		
Egret wardens	$1,840 00	
Expenses, re confiscated plumes	121 39	
Reservation posters and expenses	297 08	
Telegrams	10 55	
Inspecting rookeries	612 02	
Traveling expense	25 00	
Biological Survey work	1,600 00	
Motion pictures and prints	454 66	
		4,960 70
Balance unexpended, October 19, 1920, Exhibit A		$512 45

CHILDREN'S EDUCATIONAL FUND

Exhibit D

INCOME AND EXPENSE ACCOUNT

Balance, October 19, 1919	$5,137 40	
INCOME—		
Contributions	26,590 45	
Junior Members' fees	27,127 40	
Sale of typewriter	20 00	
		$58,875 25
EXPENSES—		
Administrative expense	$1,500 00	
BIRD-LORE to Junior Classes	6,646 53	
Buttons for Junior Classes	1,611 81	
Colored plates in BIRD-LORE	284 66	
Cartage and expressage	284 36	
Field Agents' salaries and expenses	6,849 32	
Half-tones for publications	57 30	
Office rent	840 00	
Office supplies	324 04	
Miscellaneous	321 63	
Postage on circulars and literature	6,800 00	
Printed circulars to teachers	991 05	
Printing envelopes	701 34	
Printing leaflet units for Junior Members	16,763 00	
Reports and publicity	2,296 29	
Soliciting for Junior funds	481 83	
Stenographic and clerical work	6,210 02	
Automobile for Long Island Agent (Paid for by Bird Club of Long Island)	782 00	
		53,745 18
Balance unexpended, October 19, 1920, Exhibit A		$5,130 07

DEPARTMENT OF APPLIED ORNITHOLOGY

Exhibit E

INCOME AND EXPENSE ACCOUNT

Balance unexpended, October 19, 1919		$77 09
INCOME—		
Contributions	$1,450 00	
Earnings of H. K. Job—public lectures	1,173 43	
Sale of motion pictures	400 00	
Rental of films	400 00	
		$3,423 43
		$3,500 52
EXPENSES—		
Agents' salaries and expenses	$3,079 86	
Purchase of motion picture camera	400 00	
Stationery and printing	20 00	
		3,449 86
Balance unexpended, October 19, 1920, Exhibit A		$0 66

STATEMENT OF RECEIPTS AND DISBURSEMENTS FOR THE YEAR ENDED OCTOBER 19, 1920

Exhibit F

RECEIPTS—			
Income on General Fund		$69,112 87	
Endowment Fund		22,404 15	
Egret Fund		3,933 71	
Children's Educational Fund		53,737 85	
Department of Applied Ornithology		3,423 43	
Roosevelt Memorial Fund		641 24	
Interest due October 19, 1919		752 25	
Total receipts for year ended October 19, 1920			$154,005 50
Cash balance October 19, 1919			40,642 42
			$194,647 92
DISBURSEMENTS—			
Expenses on General Fund		$68,836 25	
Endowment Fund investments	$45,200 00		
Less—Investments reduced	24,450 00	20,750 00	
Egret Fund		4,960 70	
Children's Educational Fund		46,482 18	
Department of Applied Ornithology		3,499 86	
Furniture		33 56	
Boats		102 00	
Unpaid bills, October 19, 1919		6,523 06	
Total disbursements for year ended Oct. 19, 1920			151,187 61
Cash Balance October 19, 1920, Exhibit A			43,460 31
			$194,547 94

New York, October 25, 1920.

DR. F. A. LUCAS,
Acting President,
National Association of Audubon Societies,
New York.

Dear Sir: We have examined report submitted by John H. Koch & Company, certified public accountants of the National Association of Audubon Societies, for the year ending October 19, 1920. The accounts show balance sheets of October 19, 1920, and income and expense account for the year ending the same date. Vouchers and paid checks have been examined by them in connection with all disbursements, and also the securities in the Safe Deposit Company.

Yours very truly,

T. S. PALMER
J. A. ALLEN
Auditing Committee.

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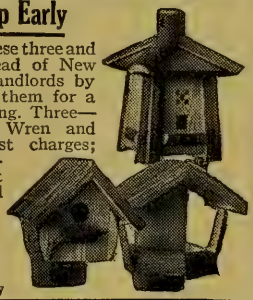

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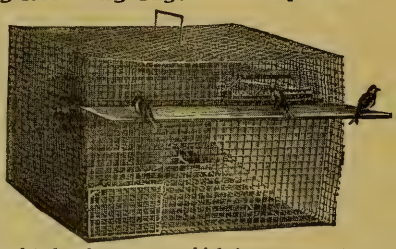

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